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ARCHITECTS' FEES AND CONTRACTS
By Alexander B. Trowbridge

ARCHITECTS' OFFICES
1. Perkins, Fellows & Hamilton, Chicago

SEPTEMBER 1918

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THE ARCHITECTURAL FORUM

VOLUME XXIX NUMBER 3

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PAUL P. CRET AND ZANTZINGER, BORIE & MEDARY, ASSOCIATE ARCHITECTS

THE ARCHITECTURAL FORUM
FOR QUARTER CENTURY THE BRICKBUILDER

VOLUME XXIX SEPTEMBER 1918 NUMBER 3

Architects' Fees and Contracts

By ALEXANDER B. TROWBRIDGE

THE average young graduate of an architectural school on the threshold of a professional career little realizes the nature of the calling he has selected. In his academic work he has designed lofty cathedrals, stately capitols, dignified libraries, chaste museums. He thinks he knows a thing or two about planning, and in the back of his head he has stowed away a little special information on snappy indication or skilful rendering in color. To be sure, he has had little or nothing to do with the *business* of architecture. That can wait. He may have some hazy notion that he'll let George (his future partner) do it. His idea of the practice of architecture is to make knowing plans, scholarly façades and clever sections. He would like to demonstrate that the spirit of Michaelangelo is not dead. He forgets that Michael was not only endowed with genius, but was, as well, free of the handicapping conditions which surround the practice of modern architecture. Michael was not called upon to produce separate plans for heating and ventilation, or plumbing layouts or wiring plans and schedules. Our fledgling architect only dimly senses the tremendous change which has taken place since the days of Saint Peter's and is unfortunately not able to grasp this change in its entirety until he has been for several years in close touch with actual practice. If he happens to be by nature one of the so-called "artistic" lads, the kind who forgets the lunch hour when he is in the midst of a water-color rendering, but becomes hungry as soon as he begins to add a column of figures, it is more than likely that business matters either interest him not at all or else bore him intensely. He resents the intrusion of business methods in his office and feels that such things are incompatible with the production of works of art. His first rude awakening comes when he finds that careless wording of specifications has placed him in a dilemma between owner and contractor. He is called upon to interpret his own badly expressed phrases and knows that his decision will result in the alienation of one or the other of these two men. His next awakening is occasioned by a disputed bill for professional services, when he finds he has no documents of any kind to which he may refer in support of his claim for remuneration. It takes many an architect a long time to wake up to the necessity for having things in "black and white." The more artistic one is by nature, the less does one like to talk about business matters, — that is, about remuneration. Many a man is his own worst enemy in this connection. He knows instinctively that the only sensible thing to do is to talk over architect's charges at a very early period of the operation and yet he postpones this important matter from day to day and from week to week for no very good reason and usually because of a constitutional dislike to go into these details. As a matter of fact, there is nothing more essential to the successful practice of architecture than to have the whole question of architect's services cleared up and made perfectly satisfactory to owner and architect before much of the work has been accomplished. The writer has met one architect of prominence who has asserted that in his practice covering a period of fifteen or twenty years he has never had a contract with a client. This seems like an exception to prove a rule. At any rate, it is either an acknowledgment on the part of the architect that he does not care for business methods or it presupposes a remarkable condition of affairs existing between himself and his clients. The average architect knows that it is well to have a clear, written understanding with clients, simply for the purpose of avoiding misunderstandings when the day of settlement arrives.

The question naturally arises as to when is the best time for an architect to broach the subject of fee. If the client does not bring the matter up at the first interview and if the architect believes that the matter of fee may, in the mind of the client, be an important consideration, it is well to make it the subject of correspondence shortly after the first conference. If the client requests sketches and is not certain as to whether or not he will proceed with the work, it becomes still more important that the architect should safeguard the expense to which he is to be put in producing sketches the value of which may not be readily determined by any one of the usual percentage methods of charging. Whether the question of fee is discussed at the first conference or in correspondence shortly following, it has been proved again and again that it is unwise to leave this question open, to be taken up after the work is well under way. Many a layman has paid six per cent for architects' services

in connection with commercial architecture and is not aware that most of the members of the profession ask an increased price for residential work. Unless this is explained in the beginning, it is quite likely to lead to trouble later on.

This paper is primarily for the discussion of contracts, but it appears evident that such discussion cannot be carried on intelligently unless the whole matter of professional charges is discussed at the same time. We will, therefore, take up, first, the customary method of basing the architect's fee upon the final cost of the work.

What is called the ordinary " percentage method of charging " is in use all over the United States and will undoubtedly continue to be in use for some time to come. There is a growing belief, however, that it has so many faults that it will in time be superseded by some more reasonable and logical mode of procedure. It is illogical because the architect in his capacity of professional adviser spends a great deal of time and thought in reducing costs, finding simpler means of accomplishing results and in paring down contractors' charges; and in so doing he reduces his fee. The greater the skill in accomplishing such results the smaller the pay! It is fortunate that architects as a class are too broadminded and conscientious to take such a narrow view of the fee question, but this does not alter the fact that the percentage system is fundamentally unsound. Furthermore, the percentage system makes a manufacturer out of the architect. He charges a percentage on all work passing through his office and at the end of the year finds that he has made more or less profit out of the business according to the amount of money handled and his skill in keeping down office (manufacturing) costs. Another objection to the ordinary percentage method is the opportunity it gives to the architect who is not conscientious to run up the cost in order to benefit by it. This is so obvious as to need very little comment. Undoubtedly there have been instances when men have been too much interested in the percentage fee and have forgotten the fact that the architectural profession is one founded upon a high sense of propriety and that any undue thought given to a fee is inharmonious with the assumption of a professional attitude toward a problem. The ordinary percentage method is complicated. It involves the need of considering, when the contract is written, what items shall be listed with the building contract and what shall be considered as furnishings. It may be that an architect will receive the ordinary percentage fee for his plans, specifications, details and supervision, and a separate flat fee for directing the furnishings. In such an event it would be very helpful to have in the contract a paragraph explaining what articles should be classed under the head of building. The absence of such a clause leaves an opening for a dispute.

Another method of charging which is sometimes successful, and is certainly more satisfactory to the architect, is to charge the client a sum equal to three or four times the cost of drafting. The words " three or four " are used because it has been found that three times the cost of drafting is satisfactory remuneration when an architect is assisting a client to develop a project which may or may not be carried to completion. Three times the drafting probably would not give adequate profits if it were applied to a problem involving a large number of scale and detail drawings with specifications, full-size details, and supervision. The advantage in this method of charging is that the owner may study the problem with the architect, requiring as many drawings and as many separate schemes as he may wish to order without at any time feeling that he is imposing upon the architect's time. The disadvantage lies in the danger of permitting the work to cost more to the client than it would cost under some other form of contract. This can happen even in careful offices if the supervision of the drafting is not undertaken by some one who appreciates this danger. Many a graduate of a school of architecture has been brought up in an atmosphere which plainly teaches that you cannot put too much study on a problem. This we know to be rubbish, yet that is the point of view of many academically trained practitioners. A scheme can be ruined by overattention just as a painting can have all its spontaneous character squeezed out of it by a fussy attention to unimportant details. To make this method of charging satisfactory to both parties it must be demonstrated that in the long run it is not a scheme to increase the architect's income. A client who decides promptly and does not want a large number of studies will save money by this method.

A third method of charging which has some advantages is where the client stipulates that the cost shall not exceed a certain specified sum, and that the architect shall do his work for a percentage of the proposed cost with an understanding that his fee shall remain fixed and that the cost may fluctuate for a certain distance either under or over this fixed fee. Let us suppose that an owner informs an architect that his approximate cost is $40,000 and that he is willing to pay his architect a fee of $4000 for his services, such a fee to remain stationary even if the final cost exceeds the proposed cost. Now it is obvious that this plan must be safeguarded, since so many owners change their minds regarding the requirements of their problems and eventually build much larger houses than they expect to build in the beginning. It would be only proper to agree with the owner that the fee of $4000 would remain fixed just so long as the final cost remained inside of, say, a 25 per cent increase, but that the fee would become $5000 if the final cost were to lie between $50,000 and $60,000 and $6000 if the cost were between $60,000 and $70,000, and so on. Such an agreement ought also to stipulate that the

original fee of $4000 would remain fixed if the owner should require changes in his plans for the purpose of reducing the cost of the house. As previously argued, an architect should not be penalized for doing whatever is desired by the owner to cut down costs.

A compromise method which is somewhat like the processes previously described is where the architect receives a fixed fee for his personal services which in most instances would be a salary, and to this fixed fee would be added all the costs of the operation including overhead charges, drafting, blue prints, expert engineer's services, etc. The advantage in this system is that the owner may wish to order a good deal more drafting than he would ordinarily be entitled to. His relation to the work is exactly as though he engaged the drafting force for his own benefit. The time the architect or the firm of architects devotes to the problem is paid for separately. The manner of deciding what this fee shall be is, of course, a difficult one in almost all operations. The owner may propose to build a $50,000 house and the original fee for the personal services of the architect may have a certain proportionate relation to $50,000, which would be perfectly satisfactory if the owner did not change his mind with regard to the size of his operation. In a very large number of cases, however, the final result is much larger than the original scheme contemplated. Given, however, that a salary may be agreed upon which would be considered fair remuneration for the active interest of the architect or the firm of architects during the entire period of work, from the commencement of sketches to the issuance of the final certificate to the building contractor, this method is the best which has so far been devised. In return for the " can't lose " feature the architect could do his work for a moderate professional fee provided he could get all of his clients to adopt this plan. This process is open to the same objection as that which was pointed out in plan No. 2, *i.e.*, much depends upon the business methods in the architect's office. The owner would be foolish to enter into this kind of an agreement with an architect if he had the slightest reason to doubt his integrity or his business sense. The great advantage of this plan is that the architect is not affected financially by anything he may draw or specify. He can discuss with candor and perfect impartiality the various articles and materials which are to go into his client's building and the client may never have even the opportunity of harboring unkind thoughts about the architect's interest in the final cost. Under the prevailing percentage system an architect who specifies an American marble of moderate price has his fee increased if the owner writes to him that he is not satisfied with the marble specified and would prefer an imported material. The architect writes to the contractor, receives an estimate for the extra cost, secures the owner's O. K., and orders the work. The matter is all handled through a stenographer and the increased percentage thereby earned (?) is all out of proportion to the labor furnished by the architect's office. It is customary to say among architects that such increases are usually balanced by decreases in other directions and that such special instances do not alter the fact that by and large the 6 per cent and the 10 per cent fees are more than earned. We can agree to this while strenuously insisting that the percentage method is illogical, absurd and not as truly professional in character as some process whereby the architect does not either gain or lose as a result of his recommendations.

These are the four best-known methods of charging and they all require different detailed paragraphs in connection with contracts. The basic requirements, however, of a contract enter into all.

Every contract requires three elementary things: First should be clearly stated the names and addresses of the parties to the contract. This is for the purpose of complete identification. Second, the services or obligations which each party agrees to render or assume. Third, the amount of money which is to exchange hands in consideration of these services or obligations. It should be stated clearly which of the two parties is to pay the sum to the other; in other words, the phraseology of the contract should be simple, clear and entirely without ambiguity. Because of the existence of State laws relating to contracts and court decisions which are virtually laws, since they so often serve as a basis for new decisions, any important contract should be supervised by an experienced lawyer. In choosing legal assistance it is well to avoid the lawyer whose mind is largely technical. A man who has a sense of humor and a human interest in questions is of much more value in a matter of this kind than the lawyer of the ultra-legal type who frequently loses sight of the clear intent of the agreement and centers his attention upon the professional correctness of his phraseology.

In addition to the three elementary features which are above cited there are many details of a secondary nature which should be considered, and, if included, should also be so clearly written as to be intelligible to and easily interpreted by any one.

The following brief list contains most of the problems which ought to be considered and settled between owner and architect in a contract:

1. It is well to have the document state clearly what items are to be considered a part of the architectural work for which the architect's fee is to be paid and what shall be considered furnishings and decorations. A similar distinction should be made between architecture and landscape architecture. Many architects are taking over both the furnishings and landscape work, but regardless of whether or not they are assuming these additional responsibilities it is always a help to have such questions considered

and settled in the contract. The need of this is especially clear in cases where a decorator and a landscape architect are employed. When an architect takes on all three functions he may find it possible to determine a flat fee covering all the work contemplated. But suppose he is first engaged to do the architectural work on a percentage basis and later arranges to do the furnishing and the landscape work for a flat fee! It is easy to see the opening for misunderstandings which might appear in such an event. In the writer's office it has been customary for years to consider that the lighting fixtures are a part of a house or building and are to be included in calculating the total cost. In some offices they are listed under the head of furnishings. Other offices cover the question by a ruling to the effect that everything which is fixed in place, *i.e.*, not portable, shall be listed in the final cost of the house. This is fairly satisfactory but is not holeproof. Carpets are a part of furnishings, yet are frequently fastened in place. A refrigerator may be of the portable type but a waste pipe is provided and frequently an outside icing door, so usually refrigerators go with the house. So it is with the range, the garbage burners, the vacuum cleaner and many semi-fixed or semi-portable articles.

2. When the system of architect's charges was established, years ago, almost all operations were carried out under one general contract. In modern times many operations have been carried out either without any general contractor or with one who controlled the larger part of the work, such as masonry, carpenter work and plastering, leaving to the architect the handling of such contracts as heating, plumbing, electric wiring, special interior finish, decorative painting, etc. This change in method has increased the architect's responsibilities and decreased the owner's costs. It is not at all uncommon to do away entirely with a general contractor and handle all contracts through the architect's office, thus saving for the owner the profits which the general contractor would otherwise make on all sub-contracts. The architect not only has increased responsibilities, but increased expense in overhead costs, and should have an increased fee. Now it frequently happens that the method of building is not decided until the working plans are made. Suppose, for example, that the contract between owner and architect contains no reference to this modern way of building and the owner should instruct the architect to let separate contracts, one including masonry, carpentry and plastering, and a number of others to cover all the remaining trades required to complete the job. The owner may believe he has a perfect right to build with or without a general contractor, without taking into consideration the effect his decision may have on the architect. Is it not desirable, therefore, that the agreement between owner and architect should contain one of the two following plans? Let the owner agree to pay an increased or additional fee in case he wishes to partially or wholly do away with a general contractor. Or let the fee remain unchanged but require that the owner shall pay the salary of a superintendent who shall virtually assume the functions of general contractor, such superintendent to be engaged by the architect, and to remain continuously on the job. The second of these arrangements is the preferable one because it is always difficult to determine how much of an increase in fee is fair and proper to ask, whereas the second method is fairly specific. That portion of the fee which usually covers superintendence becomes the reimbursement to the architect for additional responsibility, additional overhead costs and for personal inspections.

3. Another change which modern conditions have brought about is that involving the use of an expert engineer to be consulted in connection with the mechanical plant of a building. Twenty-five or thirty years ago our buildings were heated by plants which were so simple in character as to require no expert engineer. It was usually customary to call upon the heating contractor to provide a heating system which would be adequate to the situation. Now with our complicated methods of thermostatic control, indirect heat, vapor systems, etc., the matter has gone far beyond the capacity of the average architect's office and it is almost universally customary to provide separate heating plans and frequently separate plumbing plans in connection with any building which requires a modern mechanical plant. Here again the architect's fee has not been increased along with the establishment of this more complicated system of mechanical installation. Many architects have succeeded in getting their clients to pay the entire cost of the fee of the consulting engineer. Some offices have persuaded their clients to pay half of this fee. Still other offices have found their clients unwilling even to share it, thereby producing a hardship in the architect's affairs which makes it very difficult for him to supply the kind of service which he knows should be given to his client. The architect should talk this over with his client, explaining the advantages to be derived in both heating results and in close competitive bidding by having a separate set of heating plans and specifications prepared by an engineer specialist whose life work consists in planning such installations. The most conscientious of architects are not overfond of playing a losing game and when the client refuses to assume a part of this fee the plants are often installed from plans made by heating contractors. Such plans are doubtless excellent, but it is difficult to carry out good competitive bidding under these circumstances and the services of an unbiased expert are not available for inspection. When an owner pays the whole of the engineer's fee and wants the best that can be found, he has done all humanly possible to secure good service.

4. The question of traveling expenses should always be covered. The reason for the insertion of this subject is that the scope of the architect's field of service has grown to such an extent that in the case of a very large number of practitioners they are not confined to their own home locality. They expect, without analyzing the point, to give the same kind of service to all clients. If, therefore, they were obliged to pay traveling expenses in connection with jobs at a distance and were spared this expense in connection with jobs at home it is evident that out-of-town jobs would be considered less profitable than home jobs and the architects would have to have two separate scales of charges. It would be difficult to determine how much larger the fee should be to distant owners and the custom, therefore, of charging traveling expenses is the logical and natural solution of the question. If an architect were obliged to pay his traveling expenses out of his commission he would be forced to make careful calculations as to how many trips he could afford to make for the purpose of inspection. It is decidedly to the interest of the client to remove that element of calculation from the architect's mind and in return to see that he visits the work often.

5. A very important item has to do with the payments to the architect. Such a clause should consider in detail what proportion of the total fee should be paid in case the work is abandoned at any one of several points during the progress of the work. For example, a definite understanding should be reached covering preparation of preliminary sketches. A separate additional fee should be agreed upon which would cover working drawings and specifications carried far enough to receive definite, *bona fide* estimates. A further clause should cover the total cost of all architectural services excluding supervision. Architects used to charge one-half of the fee for sketches, working plans, scale details and specifications, *i.e.*, for all work required to complete the plans which are to be sent out to bidders. The balance was collected in monthly installments in proportion to the sums issued to the builder. As the custom grew to develop very complete sets of plans including many detail drawings and even a few full-size details in order to secure for the client close and accurate bidding, it was found that half the full fee was not adequate. Also it was clear that the assumption that only half the fee was earned when working plans were finished was illogical, as it appeared to base the fee upon the amount of work done, leaving no valuation to be applied to plan and design *per se*. Accordingly it was agreed that at least three-fifths of the full fee should be charged for all work up to and inclusive of working plans and specifications.

6. Another item of greater or less importance, according to circumstances, has to do with the number of changes which a client will sometimes require before drawings are estimated. In fact, some clients require a good many changes to be made after a contract has been let and work has commenced. If it should happen that such changes increase the cost of a structure and the architect is reimbursed by a sum which is a percentage of the total cost, it is possible that the remuneration would be sufficient to cover the cost of drafting in making the changes. This, however, is only a supposition and does not necessarily work out in a majority of cases. One perfectly valid method of ruling on this point may be illustrated as follows: If plans are approved and completed and then, either before or after bids have been received, the owner calls for changes which affect the final cost of the structure one way or the other, the architect may charge three-fifths of his full fee, using the bids or an approximated estimate for determining what this three-fifths will amount to. He then charges twice the cost of drafting for the changes required by the owner and the balance of his fee shall be two-fifths of a full fee, based upon the actual (not the approximate) cost. Thus he is paid for his original plans, is paid for the labor of making revised plans and finally receives a commission on the actual cost, which reimburses him for his full-size details and for his supervision. This would be an equitable arrangement no matter whether the changes decreased or increased the size of the building.

7. The question of supervision is always one of tremendous importance. Under the customary interpretation of the ordinary percentage fee, architects' supervision does not consist in daily visits to the work but only of periodical visits which may occur once or twice a week and such visits are for the purpose of giving a general inspection of the quality of work being done and to assist the builder in interpreting the plans and details. It has been the writer's experience, as it has been that of many others, that wherever it is possible to secure the co-operation of the client in the matter of providing continuous supervision, better work will result. Accordingly, for some time the writer's firm has had in operation the plan of engaging a competent superintendent who is continuously occupied with the problem and whose salary is shared equally with the owner. Such an arrangement is usually very much liked by the clients as it provides a kind of service not usually called for in agreements with architects, and the total cost to the client is not a big item. It is evident that if the architect is working on a percentage basis he would have to do a little preliminary figuring on each problem if his average job were in the moderately large class, before proposing this plan to an owner. His share of the superintendent's salary might eat up most of the percentage (3 per cent) which he considers is earned by the superintendence. For example, if the superintendent receives $50 per week, the architect will pay out $1300 in one year, which is

3 per cent of $43,333. He could not afford to engage a man at that salary and he could not well afford to try this plan with houses of this type. If a $50,000 house could be built inside of a year he could count upon 3 per cent, or $1500, to apply to supervision and by engaging a $40 man he would expend in all $1040 and have left $460 as fee to reimburse him for his own time in visiting the work. (It must be remembered that this plan should not relieve the architect from the obligation to visit the job periodically.) It is up to each individual architect to decide whether he can afford to do a $50,000 residence for 7 per cent plus $460, for that is what it amounts to. All this accentuates the value of the flat fee plus cost method. One is not obliged to calculate closely as to whether he can afford to do what he believes ought to be done. Under the flat fee system an owner can pay for as much or as little superintending as he may wish to have done.

8. In the case of an owner who prefers to do his own superintending and wishes only plans, specifications and details from his architect but at the same time expects that every once in a while he will request the architect to visit the work for general inspection, it is well to include a fee per day, plus traveling expenses, for such special trips. In the practice of well-known architects such fees vary all the way from $40 to $100 per day, counting the time while traveling as well as the time spent on the work. In this case the commission is calculated to cover everything except supervision and in the large majority of offices such a fee amounts to seven-tenths of the full fee.

The above discussion of details of an architect's contract is more closely related to the "ordinary percentage system" than to any other method of charging. If one is to adopt the fixed fee plus cost method there is not much to suggest in addition to the foregoing. The fee or salary may be paid monthly during a period of two or three years, depending upon the wishes of the owner, as to speed. If he wishes to turn out plans in four months and complete his building in ten additional months he can do so with certain classes of commercial structures. The salary would thus be paid monthly, approximating the amount, until twelve months had been consumed, the payment of the balance to be made during the remaining months. If an owner wishes to spend from six to eight months on sketches and plans (the writer's firm once worked for two years on the plans for a residence) and to devote about eighteen months to construction (this is not too much for a high-class residence) the salary would extend over a period of at least two years. In such cases the fee could be paid quarterly. The expense account would better be charged by the month unless it should happen that it was not burdensome for the architect to render that statement quarterly with his bill for salary.

In considering a contract for this form of charging it must be remembered that no matter how unusual your arrangement may be, it ought to contain the three principal points which were recommended at the beginning of the discussion of contracts, *viz.*: the names and addresses of the parties to the contract, the services or obligations to be rendered or assumed by the parties, and the "consideration" or amount of money to be paid by the owner to the architect "in consideration of services rendered."

Any other paragraphs or clauses which are required to elucidate the subject or to explain in detail what is inferred in a general clause need be no more than good, clear English which does not need an interpreter. When in doubt let several persons — men and women — in the office criticize it. If still in doubt, and especially if the case is important, consult a lawyer and select the common-sense type.

The foregoing is an attempt to lay before the profession, and particularly the younger members, all of the details which ought to be considered in an important contract. It must be admitted, however, that the psychological effect of a brief agreement containing only a promise on the one hand to perform the customary services required of an architect, and the agreement on the other hand to pay a certain sum in return for such services, is important. Some people would be bored by a long agreement and would be more inclined to question certain well-established customs of charging if they were elaborately inserted in a contract than if the architect merely rendered his bill with the comment that these charges were customary. The architect must rely upon his best judgment in determining what kind of a contract would be most likely to produce satisfactory results.

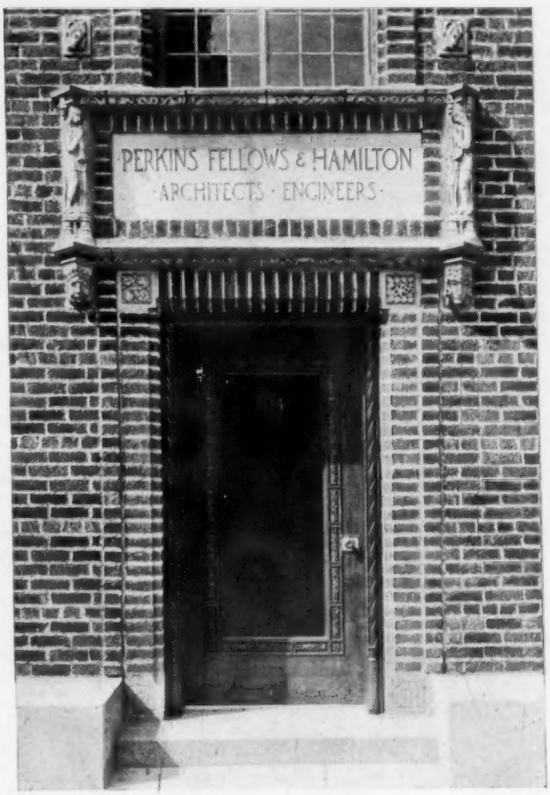
The American Institute of Architects has issued a "standard form of agreement between owner and architect" which is useful, for it contains in the beginning the three primary requisites previously mentioned, and an annex of thirteen articles which have evidently been written or at least supervised by a lawyer. These thirteen articles are all a part of the agreement and include practically everything recommended in this paper and a few other matters in addition. Here one may find paragraphs on the following subjects: The Owner's Decisions; Preliminary Estimates; Definition of the Cost of the Work; Ownership of Documents; Successors and Assignment; Arbitration. Any one interested in making a thorough analysis of the subject should obtain a copy of this standard agreement and a copy of the Institute's schedule of charges. Fortified by these documents and the informal discussion of the whole subject herein submitted, one ought to be in a position to decide what form of contract one could best use in one's practice.

The Office of Perkins, Fellows & Hamilton, Architects Tower Court, Chicago, Ill.

By ADDISON MINOT

THE planning and furnishing of an architect's office proves to be, in nearly all cases, a problem of devising the best utilization of a rented floor space in a public office building, with all important conditions of size, shape, structural supports, natural lighting, etc., predetermined.

The architect who is confronted with this difficult and important problem has therefore found it necessary to limit his desire for an inviting and convenient professional home by confining his requirements to a space, always too small, and frequently ill adapted to his purpose, which he can afford to rent, and of which his occupation is more or less temporary.



Detail of Entrance

There have been a few examples of offices of prominent architects arranged in public office buildings, which have been wholly designed by themselves, and in some cases owned or partially owned by them. In these instances some of the usual limiting conditions imposed upon the architect as a tenant have had the benefit of his forethought in the design of the structure itself.

Some interesting examples exist of architects' offices in individual buildings originally built for other purposes, and cleverly adapted for their own use. Many pleasing results have undoubtedly been obtained in some of the architects' offices in public office buildings, as described in Mr. D. Everett Waid's admirable articles published in *The Brickbuilder*, but it is doubtful if any of them are such as their proprietors would have created if they were without the narrowly prescribed limitations which are always present under such conditions.

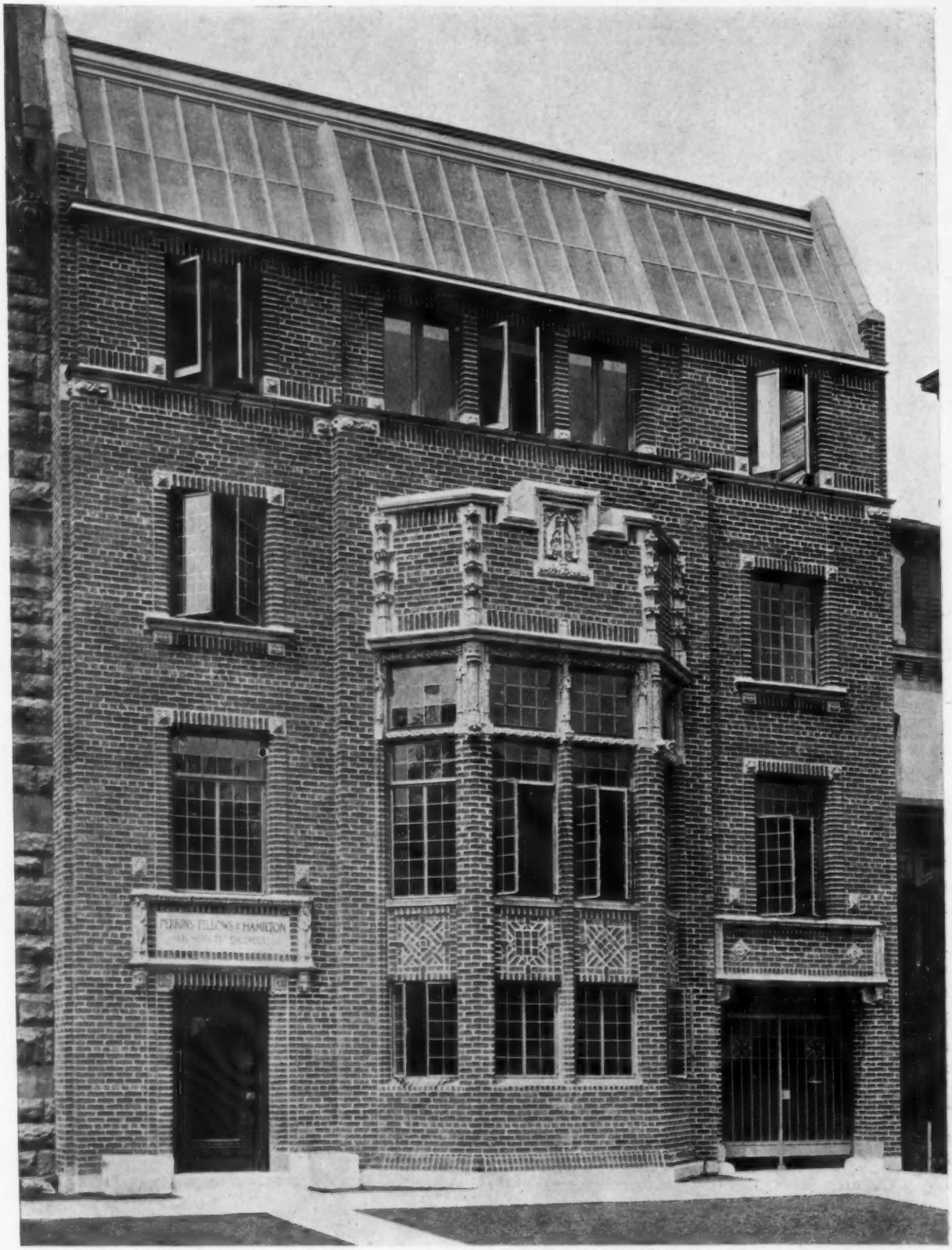
Of unusual interest, therefore, is the new office building of Messrs. Perkins, Fellows & Hamilton, architects, at 814 Tower Court, Chicago, which was designed and is owned and occupied by them exclusively. It is situated on the west side of the square, which is the northern terminal of the great Boulevard Link now about to be constructed, and which will connect Michigan avenue with the Lake Shore Drive at the intersection of Chicago avenue, which at present may be said to be the dividing line between the north business district and the exclusive residence district of the Lake Shore Drive.

A careful study of the "Chicago Plan" presented several years ago, and especially the proposed North Michigan avenue improvement (which has until recently been in process of litigation) convinced the members of this firm that such improvement would result in the early development of a new and highly desirable business district on the north side of the river, and that if a proper site could be procured before the cost became prohibitive, it would be a fine opportunity to leave the rented quarters in the Loop district and build a small building of character and prominence for their own use. That their wisdom and foresight were well rewarded is evident in the ideal location and surroundings of the spot which they chose.

The building is a substantial fireproof structure designed in a free adaptation of the French Gothic style. The exterior is of rough-faced brick of red and brown shades, with heavy, white mortar joints, and trimmings of terra cotta of a warm gray color, and most interesting in detail.

The members of the firm may drive their cars through the passage under the building to their own garage adjoining a rear courtyard — a luxury which is most appreciated by men who have their offices in the heart of a great city where such conveniences are not readily found.

Upon entering the building through a Tavernelle marble vestibule into the hall, which is of marble and terrazzo of similar shade, a well-lighted and inviting contractors' room is seen behind the counter at the



GENERAL VIEW OF TOWER COURT FACADE
OFFICE BUILDING OF PERKINS, FELLOWS & HAMILTON, ARCHITECTS

right. Here is transacted all of the usual routine business between the office and contractors and trade representatives in relation to work being figured. The general superintendent has his desk here, and the telephone switchboard with twelve stations is at the counter. A file of copies of all the drawings and specifications for work under construction and work being figured is kept in this room. A very complete system of records of all transactions is maintained, the principal forms for which are reproduced on the following pages, where each is given a letter to correspond with the reference to it in the text. Card records of the issue of all drawings and specifications given out are kept in the contractors' room, using card forms E and F, each of a distinctive color. Proposals are made out on form A. An index of contractors' applications, using card form N, and of manufacturers' applications, made out on a form similar to it but not reproduced, is also kept here, as is a card list of applications for employment on form J.

Inquiries concerning interpretations of drawings and specifications of work being figured are made in writing on form M, and answered in writing to all of the prospective bidders concerned.

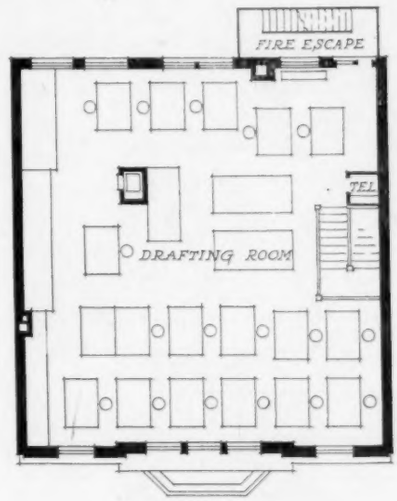
A dumb-waiter at the rear of the hall connects this department with the drafting-room and other portions of the building for the handling of drawings and specifications and other packages.

A visitor who wishes to interview a member of the firm ascends a terrazzo marble stairway to the waiting room at the head of the stairs, which opens invitingly onto a terrace overlooking the courtyard, and is separated from the public office by a marble counter.

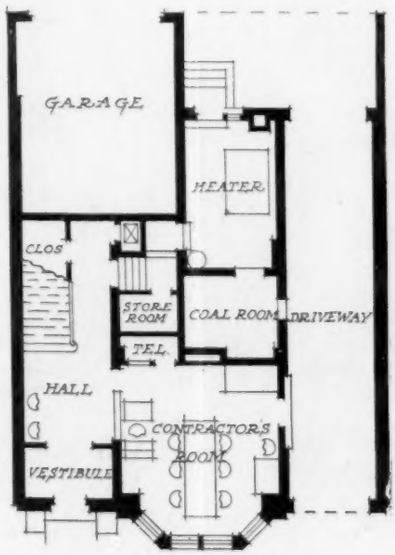
The general correspondence and bookkeeping is conducted in the public office; contractors' applications for payment (forms B and C) and certificates and change orders (forms D and L) are also issued here, the office copies being on cards and kept in filing cases. Superintendent's reports on card form P are filed in this room, as are time cost records (form G), expense records (form I), and approved sample records (form K). From this office access may be had to a large reception room and to the private offices of the members of the firm.

The reception room is a spacious and imposing place, extending through both the first and mezzanine floors, and affording a beautiful view of Lake Shore Drive through the high Gothic bay window. The room is finished with walls paneled in light fumed quarter-sawed oak, a deep vaulted ceiling of buff plaster, and a floor of cork tile. A fireplace, burning wood is at one side of the room, and contains a very interesting panel in Gothic detail.

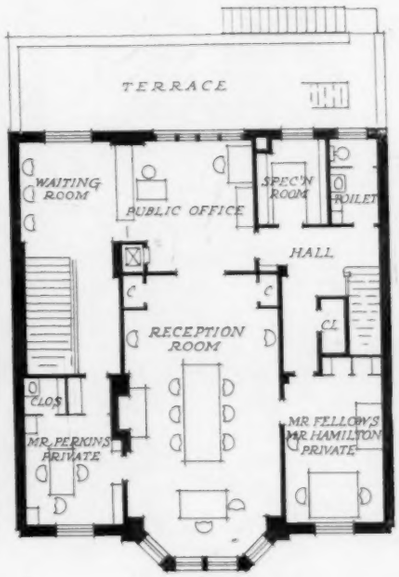
Concealed darkening and stereopticon screens may be pulled down over the bay window for use on occasions when the firm's work is to be illustrated by lantern slides. The private offices of the members of the firm are designed in harmony with the reception



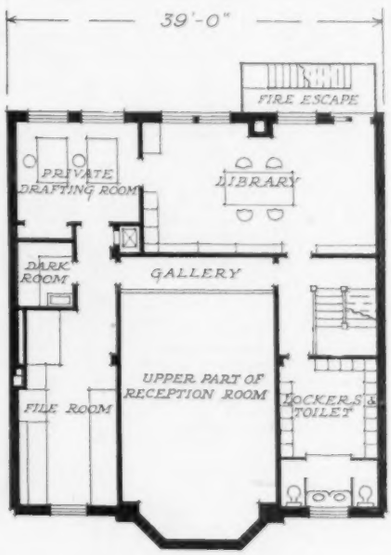
Second Floor Plan



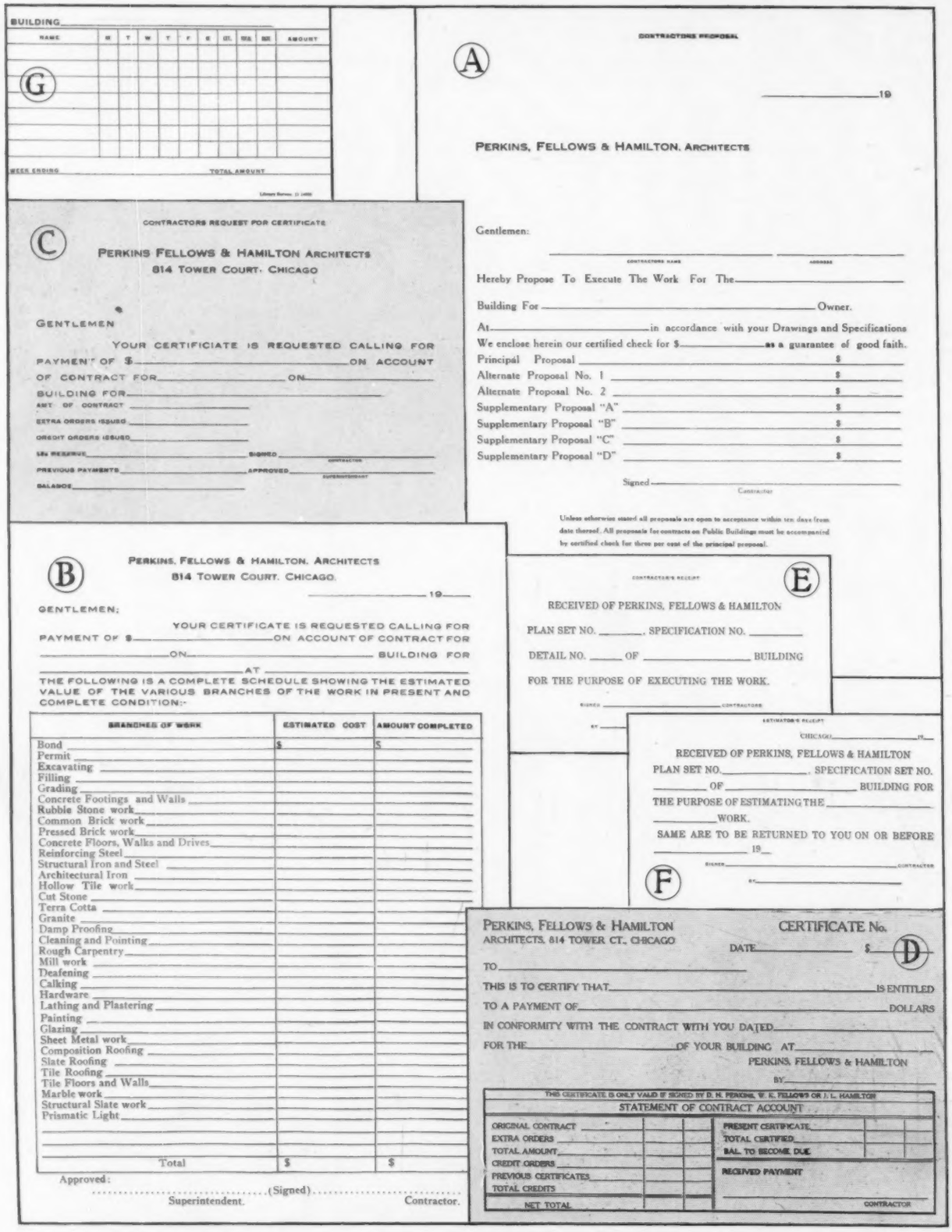
Ground Floor Plan



First Floor Plan



Mezzanine Floor Plan



BUILDING _____

NAME	M	T	W	T	F	S	III.	IIIA	IIIB	AMOUNT

G

WEEK ENDING _____ TOTAL AMOUNT _____

CONTRACTORS REQUEST FOR CERTIFICATE

C

PERKINS FELLOWS & HAMILTON ARCHITECTS
814 TOWER COURT, CHICAGO

GENTLEMEN

YOUR CERTIFICATE IS REQUESTED CALLING FOR PAYMENT OF $_____ ON ACCOUNT OF CONTRACT FOR _____ ON _____ BUILDING FOR _____

AMT OF CONTRACT _____
EXTRA ORDERS ISSUED _____
CREDIT ORDERS ISSUED _____
LESS RESERVE _____ SIGNED _____ CONTRACTOR
PREVIOUS PAYMENTS _____ APPROVED _____ SUPERINTENDENT
BALANCE _____

CONTRACTORS PROPOSAL

A

_____ 19

PERKINS, FELLOWS & HAMILTON, ARCHITECTS

Gentlemen:

_____ CONTRACTORS NAME _____ ADDRESS

Hereby Propose To Execute The Work For The _____

Building For _____ Owner.

At _____ in accordance with your Drawings and Specifications

We enclose herein our certified check for $_____ as a guarantee of good faith.

Principal Proposal	$
Alternate Proposal No. 1	$
Alternate Proposal No. 2	$
Supplementary Proposal "A"	$
Supplementary Proposal "B"	$
Supplementary Proposal "C"	$
Supplementary Proposal "D"	$

Signed _____ Contractor

Unless otherwise stated all proposals are open to acceptance within ten days from date thereof. All proposals for contracts on Public Buildings must be accompanied by certified check for three per cent of the principal proposal.

B

PERKINS, FELLOWS & HAMILTON, ARCHITECTS
814 TOWER COURT, CHICAGO.

_____ 19____

GENTLEMEN:

YOUR CERTIFICATE IS REQUESTED CALLING FOR PAYMENT OF $_____ ON ACCOUNT OF CONTRACT FOR _____ ON _____ BUILDING FOR _____ AT _____

THE FOLLOWING IS A COMPLETE SCHEDULE SHOWING THE ESTIMATED VALUE OF THE VARIOUS BRANCHES OF THE WORK IN PRESENT AND COMPLETE CONDITION:-

BRANCHES OF WORK	ESTIMATED COST	AMOUNT COMPLETED
Bond	$	$
Permit		
Excavating		
Filling		
Grading		
Concrete Footings and Walls		
Rubble Stone work		
Common Brick work		
Pressed Brick work		
Concrete Floors, Walks and Drives		
Reinforcing Steel		
Structural Iron and Steel		
Architectural Iron		
Hollow Tile work		
Cut Stone		
Terra Cotta		
Granite		
Damp Proofing		
Cleaning and Pointing		
Rough Carpentry		
Mill work		
Deafening		
Calking		
Hardware		
Lathing and Plastering		
Painting		
Glazing		
Sheet Metal work		
Composition Roofing		
Slate Roofing		
Tile Roofing		
Tile Floors and Walls		
Marble work		
Structural Slate work		
Prismatic Light		
Total	$	$

Approved:

.....(Signed).....

Superintendent. Contractor.

CONTRACTOR'S RECEIPT

E

RECEIVED OF PERKINS, FELLOWS & HAMILTON

PLAN SET NO. _____, SPECIFICATION NO. _____

DETAIL NO. _____ OF _____ BUILDING

FOR THE PURPOSE OF EXECUTING THE WORK.

SIGNED _____ CONTRACTOR

BY _____

ESTIMATOR'S RECEIPT

CHICAGO _____ 19__

RECEIVED OF PERKINS, FELLOWS & HAMILTON

PLAN SET NO. _____, SPECIFICATION SET NO. _____

_____ OF _____ BUILDING FOR

THE PURPOSE OF ESTIMATING THE _____

_____ WORK.

SAME ARE TO BE RETURNED TO YOU ON OR BEFORE _____ 19__

F

SIGNED _____ CONTRACTOR

BY _____

PERKINS, FELLOWS & HAMILTON
ARCHITECTS, 814 TOWER CT., CHICAGO

CERTIFICATE No. _____

DATE _____ $ _____

D

TO _____

THIS IS TO CERTIFY THAT _____ IS ENTITLED

TO A PAYMENT OF _____ DOLLARS

IN CONFORMITY WITH THE CONTRACT WITH YOU DATED _____

FOR THE _____ OF YOUR BUILDING AT _____

PERKINS, FELLOWS & HAMILTON

BY _____

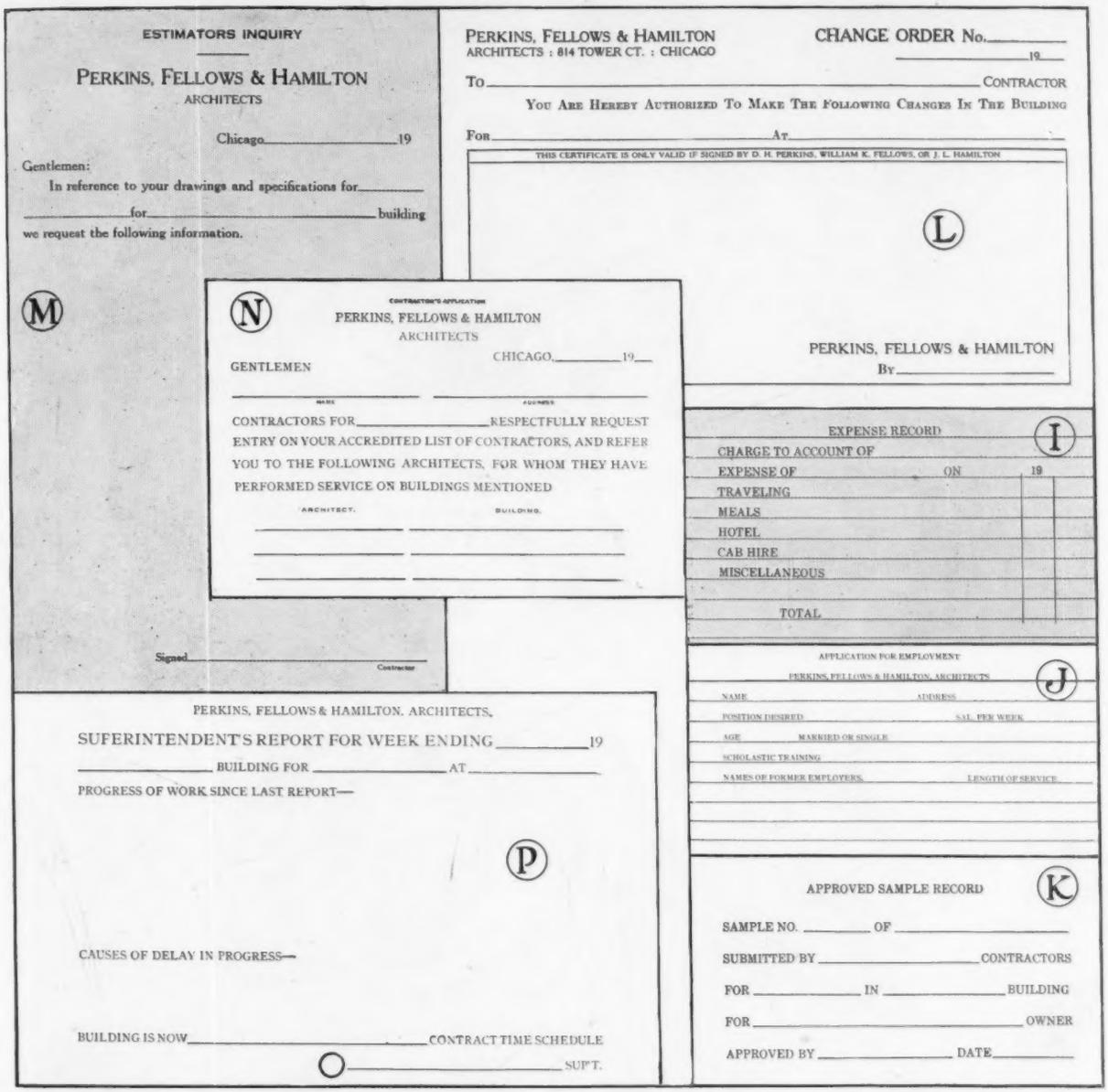
THIS CERTIFICATE IS ONLY VALID IF SIGNED BY D. H. PERKINS, W. K. FELLOWS OR J. L. HAMILTON

STATEMENT OF CONTRACT ACCOUNT

ORIGINAL CONTRACT			PRESENT CERTIFICATE		
EXTRA ORDERS			TOTAL CERTIFIED		
TOTAL AMOUNT			BAL. TO BECOME DUE		
CREDIT ORDERS			RECEIVED PAYMENT		
PREVIOUS CERTIFICATES					
TOTAL CREDITS					
NET TOTAL				CONTRACTOR	

A. Contractors' Proposal
B. Contractors' Payment Application
C. Request for Certificate
D. Architects' Certificate
E. Contractors' Receipt
F. Estimators' Receipt
G. Draftsman's Time Card

REPRODUCTIONS OF FORMS IN USE IN THE OFFICE OF PERKINS, FELLOWS & HAMILTON



ESTIMATORS INQUIRY

PERKINS, FELLOWS & HAMILTON
ARCHITECTS

Chicago_____19

Gentlemen:
In reference to your drawings and specifications for_____
_____for_____building
we request the following information.

Signed_____
Contractor

(M)

(N)

CONTRACTOR'S APPLICATION
PERKINS, FELLOWS & HAMILTON
ARCHITECTS

CHICAGO,_____19__

GENTLEMEN

NAME _____ ADDRESS _____

CONTRACTORS FOR_____RESPECTFULLY REQUEST ENTRY ON YOUR ACCREDITED LIST OF CONTRACTORS, AND REFER YOU TO THE FOLLOWING ARCHITECTS, FOR WHOM THEY HAVE PERFORMED SERVICE ON BUILDINGS MENTIONED

ARCHITECT. BUILDING.

PERKINS, FELLOWS & HAMILTON
ARCHITECTS : 814 TOWER CT. : CHICAGO

CHANGE ORDER No._____
_____19__

To_____CONTRACTOR

You Are Hereby Authorized To Make The Following Changes In The Building

For_____At_____

THIS CERTIFICATE IS ONLY VALID IF SIGNED BY D. H. PERKINS, WILLIAM K. FELLOWS, OR J. L. HAMILTON

(L)

PERKINS, FELLOWS & HAMILTON
By_____

EXPENSE RECORD (I)

CHARGE TO ACCOUNT OF
EXPENSE OF _____ ON _____ 19

TRAVELING		
MEALS		
HOTEL		
CAB HIRE		
MISCELLANEOUS		
TOTAL		

APPLICATION FOR EMPLOYMENT
PERKINS, FELLOWS & HAMILTON, ARCHITECTS (J)

NAME _____ ADDRESS _____
POSITION DESIRED _____ SAL. PER WEEK _____
AGE _____ MARRIED OR SINGLE _____
SCHOLASTIC TRAINING _____
NAMES OF FORMER EMPLOYERS _____ LENGTH OF SERVICE _____

PERKINS, FELLOWS & HAMILTON, ARCHITECTS,

SUPERINTENDENT'S REPORT FOR WEEK ENDING_____19
_____BUILDING FOR _____AT_____
PROGRESS OF WORK SINCE LAST REPORT—

(P)

CAUSES OF DELAY IN PROGRESS—

BUILDING IS NOW_____CONTRACT TIME SCHEDULE
_____SUP'T.

APPROVED SAMPLE RECORD (K)

SAMPLE NO. _____ OF _____
SUBMITTED BY _____CONTRACTORS
FOR _____ IN _____BUILDING
FOR _____OWNER
APPROVED BY _____ DATE_____

I. Expense Record
J. Application for Employment
K. Approved Sample Record
L. Change Order
M. Estimators' Inquiry Blank
N. Contractors' Application
P. Superintendent's Report

Reproductions of forms in use in the office of Perkins, Fellows & Hamilton

room. The effect is one of quiet good taste, and a well-considered business establishment. The studio effect was carefully avoided.

Adjoining the service hall on the first floor is a small room especially designed and equipped for specification work, in which are kept all catalogue files, original specification files, and approved samples. A small toilet room is also provided on this floor.

It is intended that no necessity should arise for a client to go above the first floor level under the ordinary course of business bringing him to the office.

Upon the mezzanine floor is a large and spacious library, with a private drafting-room adjoining for design work of a confidential nature. The library is a well lighted room used for no other purpose, and its use is therefore never interfered with.

An inviting locker and toilet room for employees, with a steel locker for each, is also found on this floor, as is also the general file room. A small room is also provided which is intended for use as a dark room or a kitchenette on occasions when it is desired to serve luncheon in the building.

On the top floor is the main drafting-room, a large

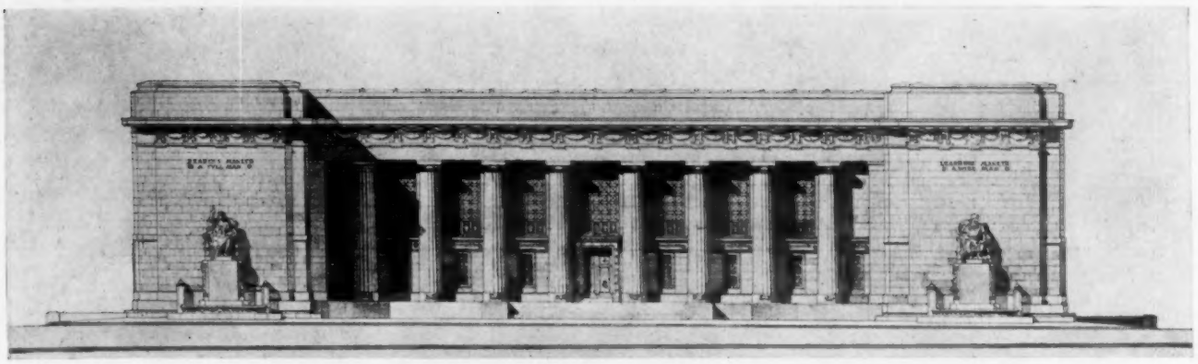
Drafting Room

Library

room 38 by 42 feet in size, without columns, and beautifully lighted from the east and west. The room is of unusual height, furnished in the simple fashion of a clean, airy workshop. Its east windows command a wide sweep over the Lake Shore Drive and the square in front, and the large sloping expanse of translucent glass above them throws a softly diffused light far into the room.

The impression which is made on the visitor by an inspection of this unusual office is that here is an ideal solution of an important problem, and one which well expresses the combined art and scientific business of a modern architect's office, thoroughly organized and established on a basis of permanence and stability, and affording a valuable and dignified publicity which could be obtained in no other way.

Reception Room
Office of Perkins, Fellows & Hamilton, Architects



Rendered Elevation from Competition Drawings Showing Intended Sculptural Groups

The Indianapolis Public Library

By RALPH ADAMS CRAM

A LITTLE while ago, I had occasion to write in appreciation of the very wonderful work of Messrs. Day and Klauder at Princeton, which so fittingly crowned the life of Frank Miles Day; a life that, to the great loss of the profession of architecture, came to an end shortly after the completion of this memorial.

These Princeton dining-halls mark an extraordinarily high level in the restoration of English mediæval architecture as a living style. Let me now, in a measure, restore the balance by writing in equal appreciation of a building which is for classical architecture what the Princeton buildings are for Gothic. I refer to the Indianapolis Library by Mr. Cret, Mr. Zantzinger, Mr. Borie and Mr. Medary.

I came upon this building almost by accident last winter and the first glance was sufficient to indicate that here was a work of purity and distinction, well outside the limits of contemporary experience. If the quality of distinction is, as I have sometimes described it, "the doing of the unexpected pleasantly," then this is a work of superior distinction. Nothing is exactly what the academically trained classicist would expect, and yet every detail, every element, gives the keenest pleasure. It is Greek Doric, and yet there is nothing of cold archæology or mechanical reproduction. It almost seems as though the architects thought themselves into the Hellenic spirit and then expressed themselves frankly and simply, without stopping to think whether what they did had sufficient precedent on the Acropolis, at Pæstum or at Girgenti. The whole thing is not only Greek in form but penetratingly Greek in spirit. Yet it is a thoroughly modern building, with a highly articulated plan and, as I am told by those in authority, perfectly adapted to its function.

To me the most notable qualities in the exterior are scale and surface. It is not a large building, yet the scale is so delicately preserved that one does not think of dimensions. As for the surface, that is to say, the horizontal and vertical projections, the placing and relief of the ornament, I cannot recall any building in modern times that is more notable in its subtlety and its distinction. The polygonal bases of the great columns of the porticoes, and the frieze with its sensitive modelling and strikingly decorative forms, are certainly masterpieces of the most finely felt art. There is, perhaps, no greater test of good architecture than the manner in which ornament is placed. In the Indianapolis Library the placing of ornament is as judiciously and sensitively determined as anything I know in architecture. The detail itself, *i.e.*, the design of the ornaments, the profiles of mouldings, the composition of the sculptures and bas-reliefs, the design of the grills, the muntins of the windows, even the hardware itself, are considered with a fine scrupulosity that is as grateful as it is startling and unusual.

The interior is in every respect up to the level of the exterior. The conception of the central hall is striking and unique. Here we have a lofty interior, rectilinear, simple to a degree, with a sort of gallery surrounding it at a low level, separated from the room itself by rectilinear openings.

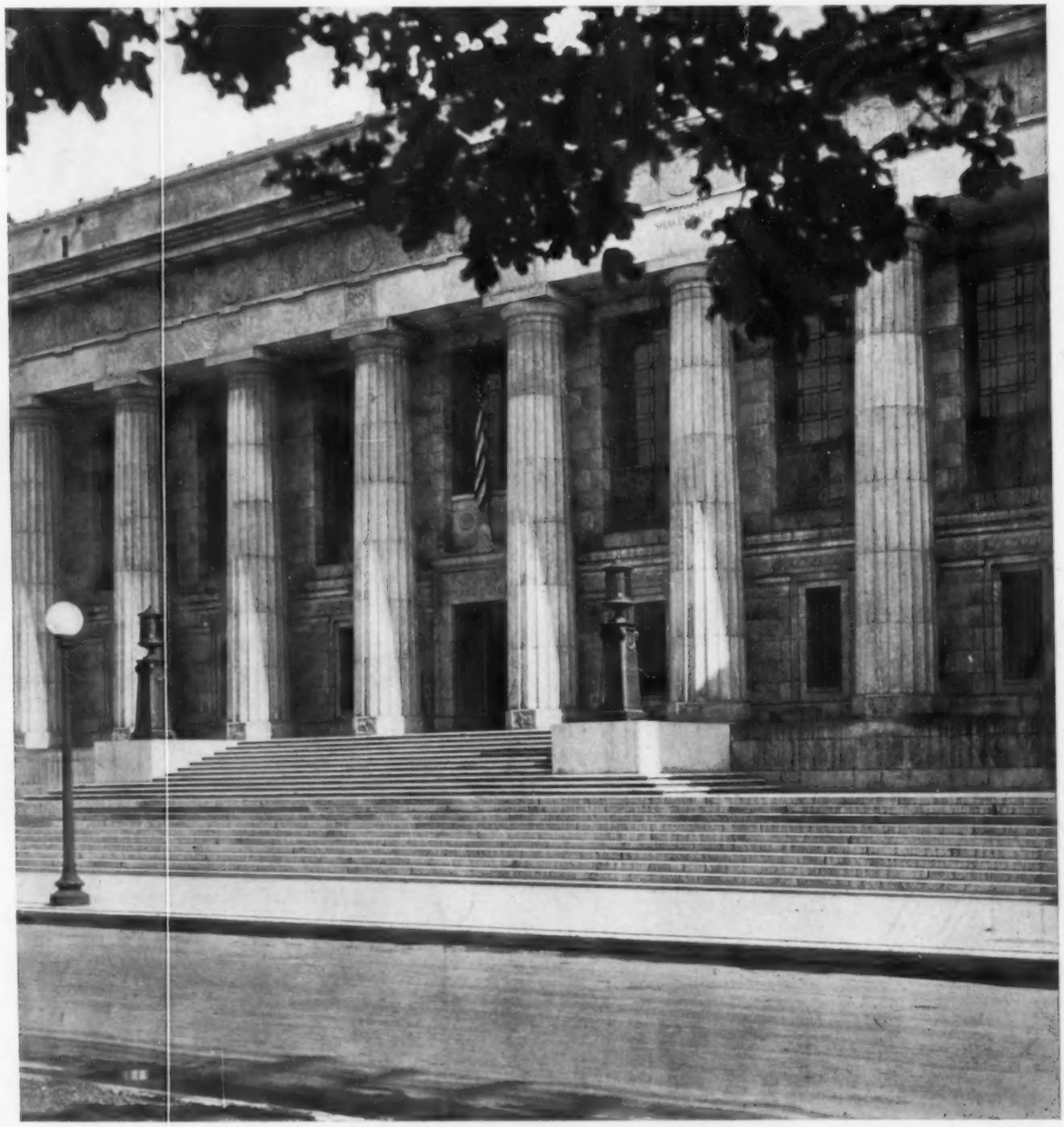
The elements are of the simplest. Nothing is overdone or wasted, and the enormous success of the result follows from proportions that are fine and sensitive to the point of perfection, and from the altogether extraordinary surfacing of the walls. Here, as outside, the decorative elements are cameo-like in their refinement, impeccable in scale, and placed with a judiciousness that excites unbounded admiration.

In point of color this interior is more than up to its standard of form and surface and line. The ceiling of the great hall is an altogether astonishing piece of decoration, with a subtlety of line, a serenity of spacing, and a purity of color that are rather staggering to those who have been brought up on the ordinary

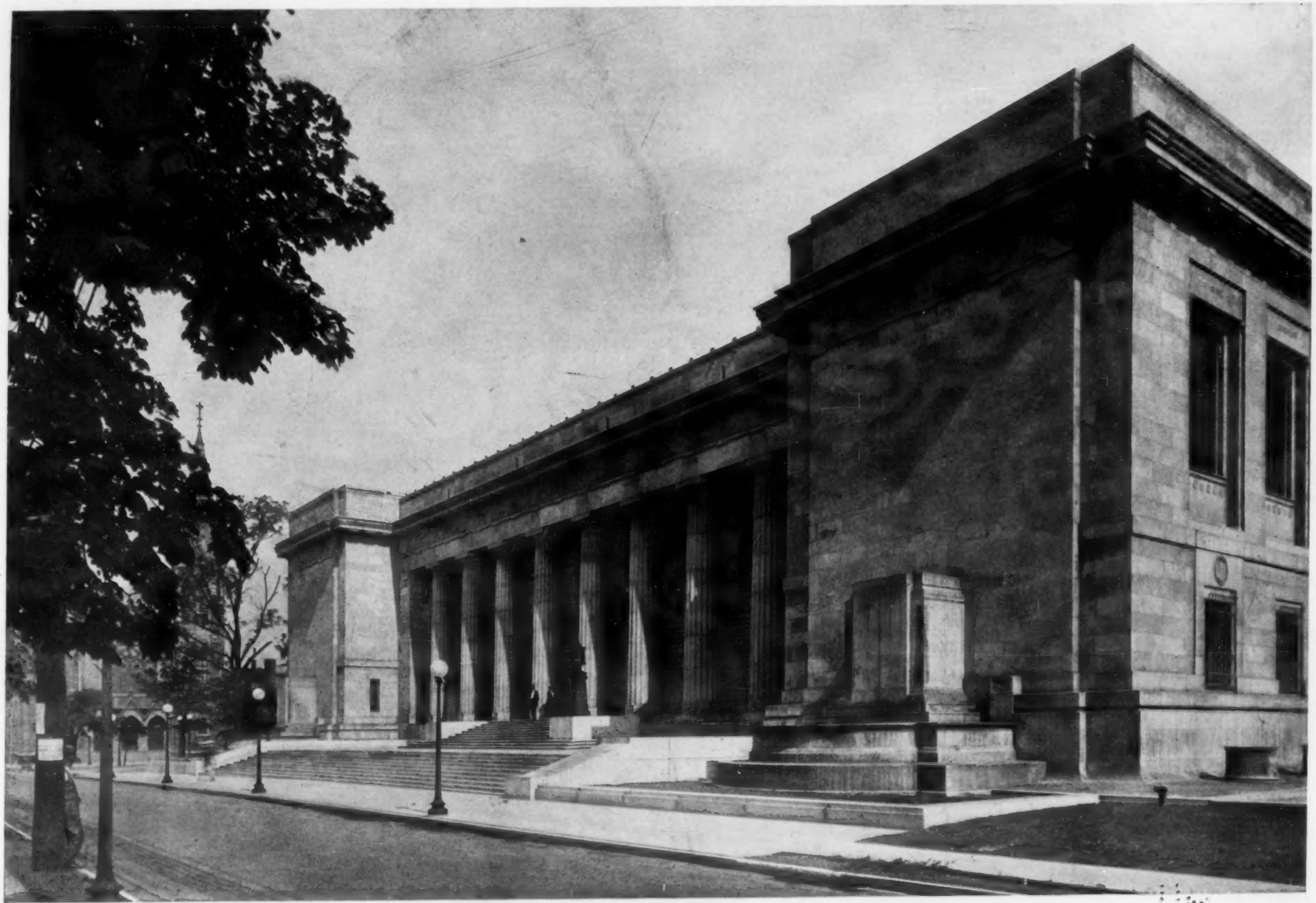
sort of thing that is generally served up as " color decoration." The same clarity and distinction of color run through all the other important rooms, where the only criticism one can offer is that the chairs and tables verge so dangerously on the edge of " office furniture " that they go far toward destroying the harmony of the architectural composition. Rooms such as these demand furniture of a fineness of form such as that of the French Empire.

Altogether I cannot help feeling that this Indianapolis Library is one of the most distinctive and admirable contributions to architecture that have been made in America. It is in itself a manifestation of the fundamental difference between the qualitative scale and the quantitative. Here, everything has been tested by quality, whereas only too often, in our architecture as in our civilization, quantity is all that counts.

If classical architecture could be handled as the architects have handled this building, the Gothicists (such as myselt) would find the ground cut out from under their feet. It is mechanistic, quantitative, or vulgarian classic we object to; not classic as it has been handled here.

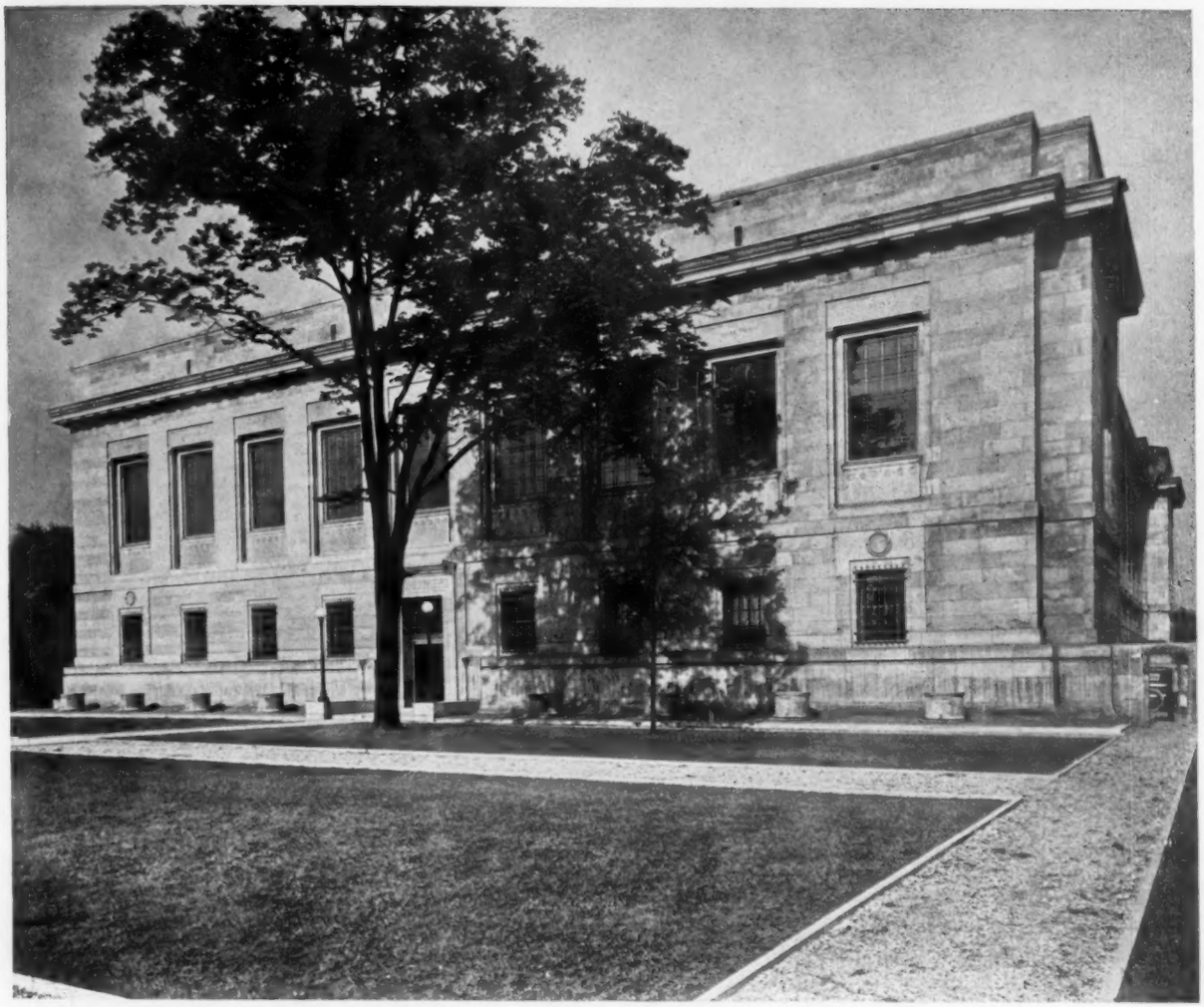


Detail of Main Facade, Indianapolis Public Library Building
Paul P. Cret and Zantzinger, Borie & Medary, Associate Architects

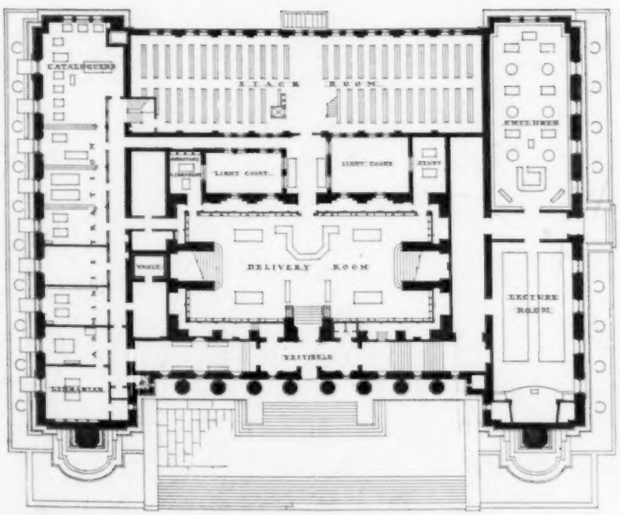


PUBLIC LIBRARY BUILDING, INDIANAPOLIS, INDIANA

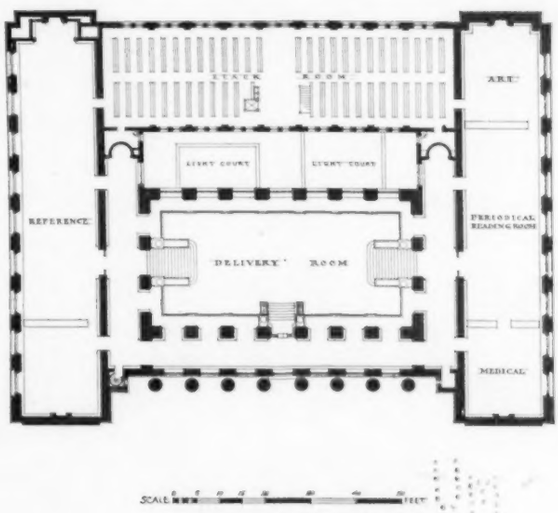
PAUL P. CRET AND ZANTZINGER, BORIE & MEDARY, ASSOCIATE ARCHITECTS



VIEW OF SIDE ELEVATION



FIRST FLOOR PLAN



SECOND FLOOR PLAN

PUBLIC LIBRARY BUILDING, INDIANAPOLIS, INDIANA

PAUL P. CRET AND ZANTZINGER, BORIE & MEDARY, ASSOCIATE ARCHITECTS

DETAIL OF SIDE ENTRANCE

DETAIL OF MAIN ENTRANCE

PUBLIC LIBRARY BUILDING, INDIANAPOLIS, INDIANA

PAUL P. CRET AND ZANTZINGER, BORIE & MEDARY, ASSOCIATE ARCHITECTS

GENERAL VIEW OF DELIVERY ROOM

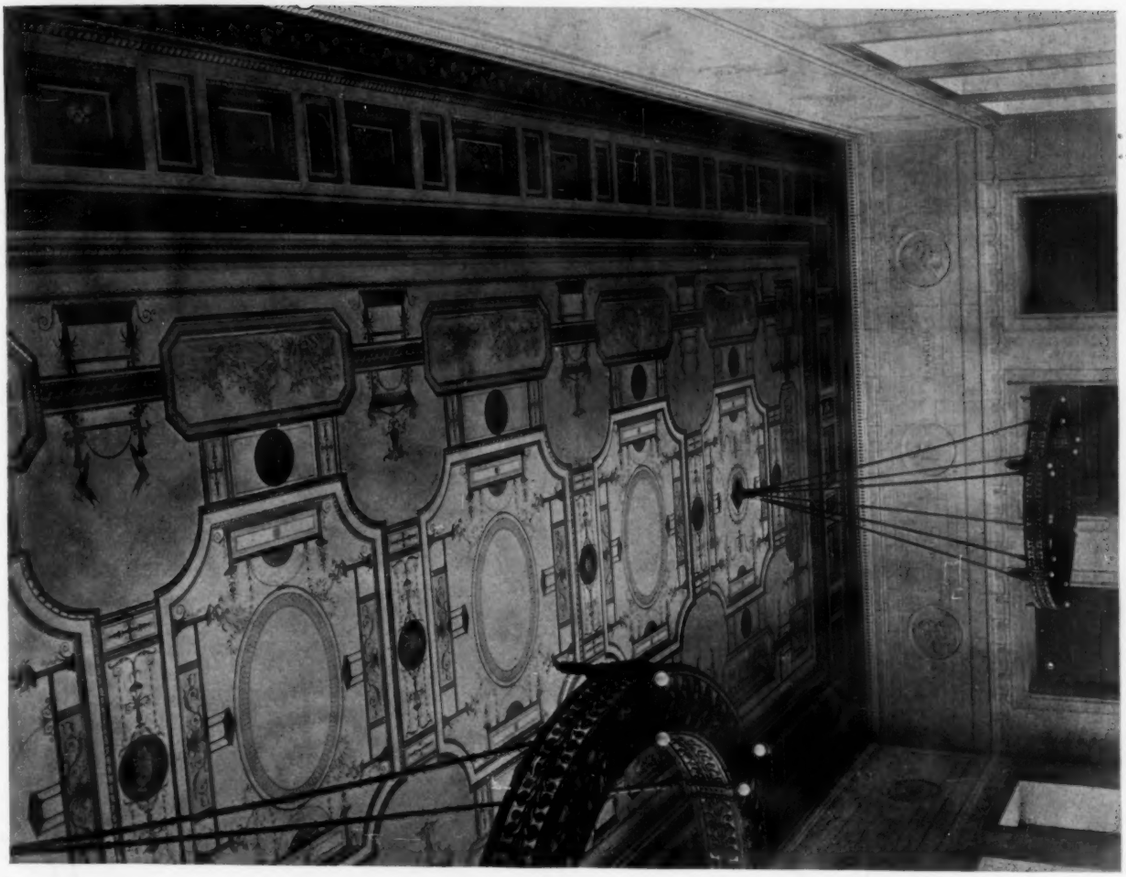
PUBLIC LIBRARY BUILDING, INDIANAPOLIS, INDIANA

PAUL P. CRET AND ZANTZINGER, BORIE & MEDARY, ASSOCIATE ARCHITECTS

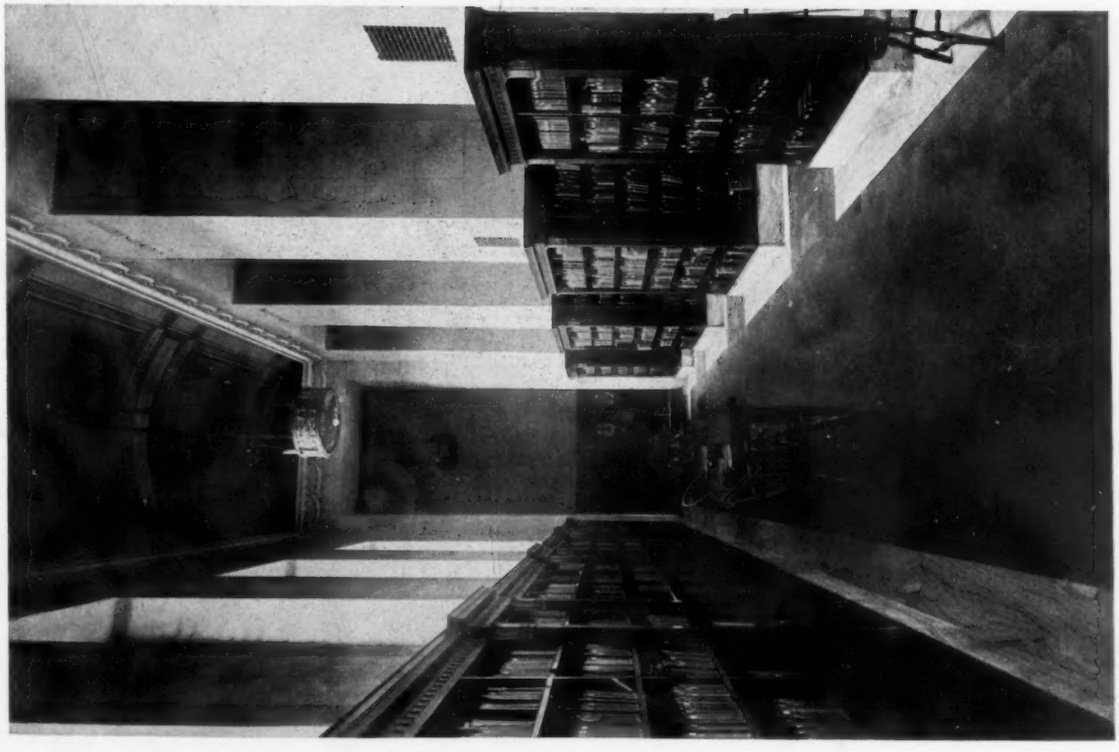
DETAIL OF STEPS LEADING FROM DELIVERY ROOM TO CORRIDOR

PUBLIC LIBRARY BUILDING, INDIANAPOLIS, INDIANA

PAUL P. CRET AND ZANTZINGER, BORIE & MEDARY, ASSOCIATE ARCHITECTS



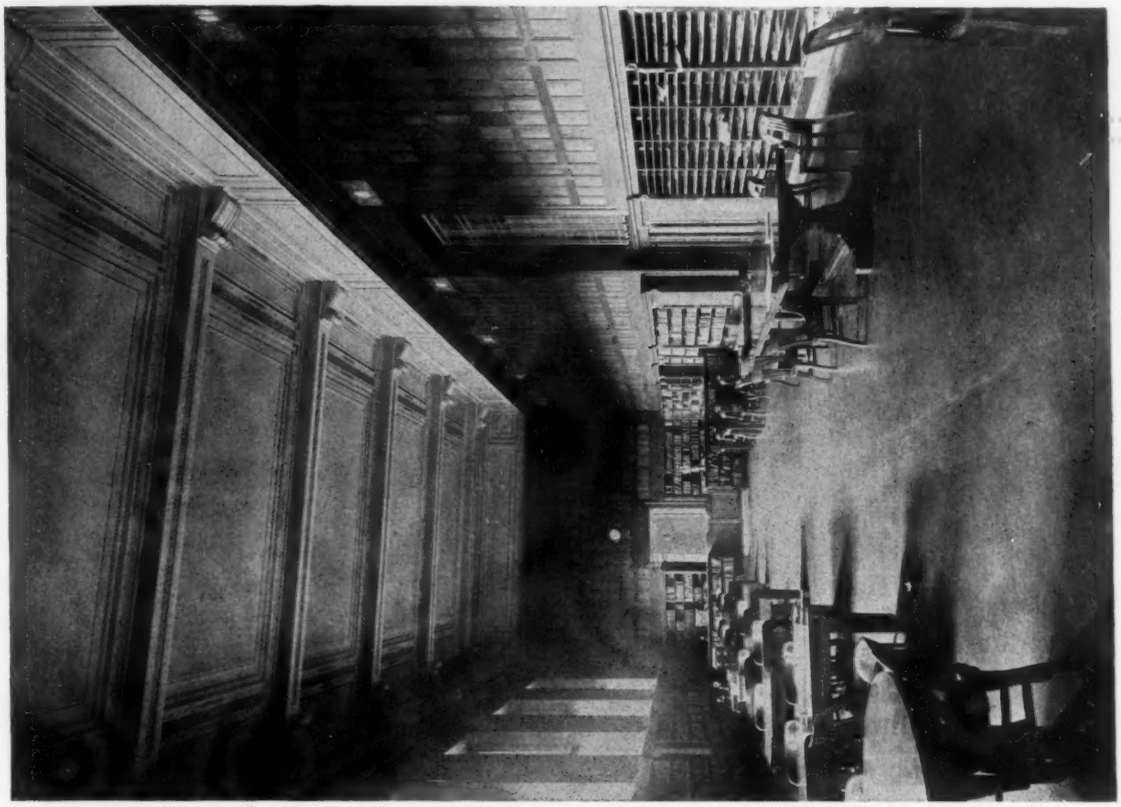
DETAIL OF DELIVERY ROOM CEILING



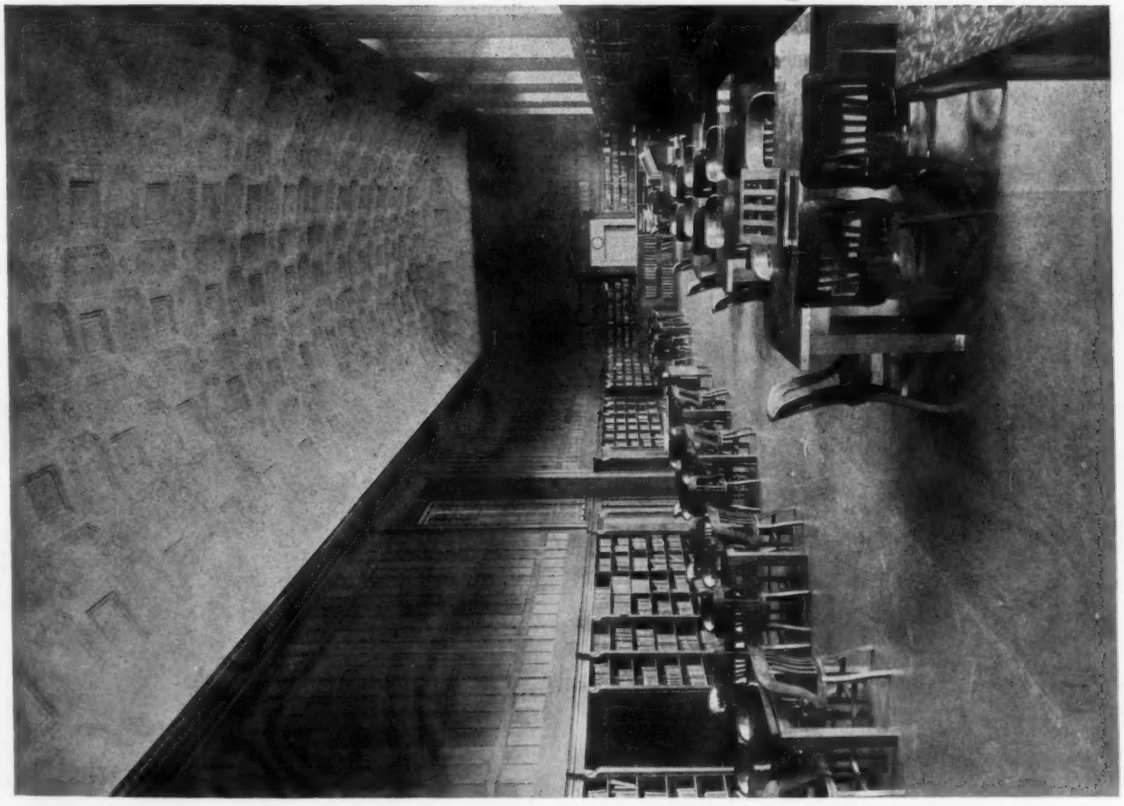
GALLERY AROUND DELIVERY ROOM

PUBLIC LIBRARY BUILDING, INDIANAPOLIS, INDIANA

PAUL P. CRET AND ZANTZINGER, BORIE & MEDARY, ASSOCIATE ARCHITECTS



PERIODICAL ROOM



REFERENCE ROOM

PUBLIC LIBRARY BUILDING, INDIANAPOLIS, INDIANA

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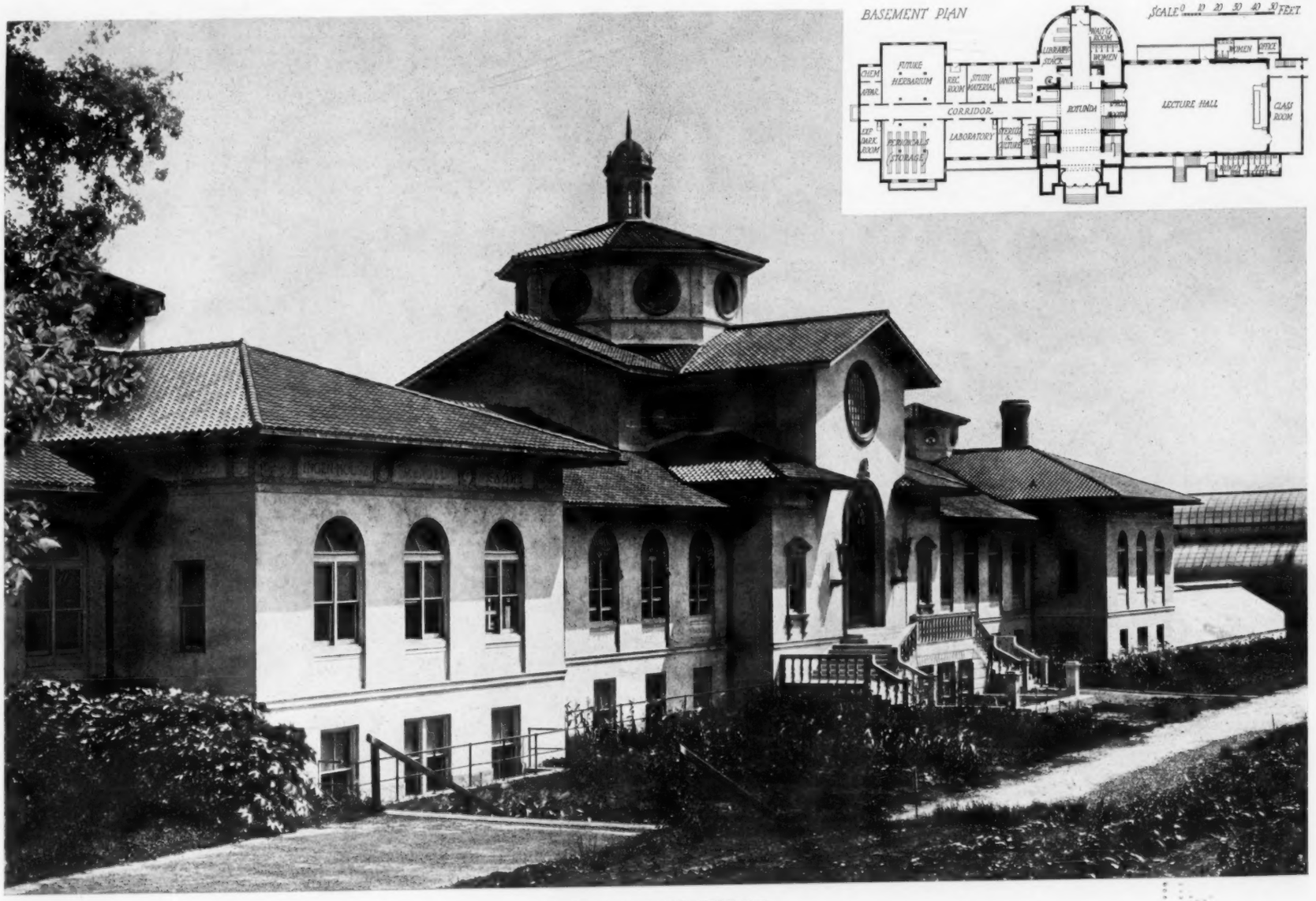


GENERAL VIEW OF EXTERIOR

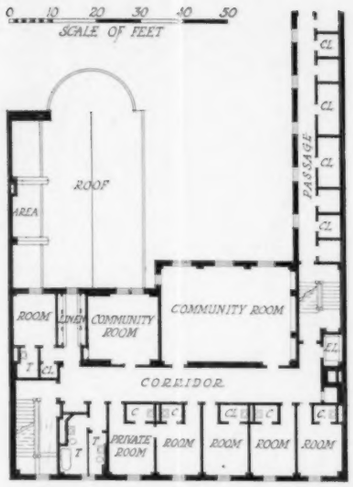
LABORATORY BUILDING, BROOKLYN BOTANIC GARDEN, BROOKLYN, N. Y.

McKIM, MEAD & WHITE, ARCHITECTS

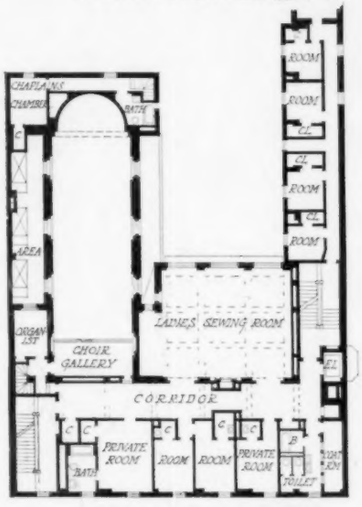
DETAIL OF MAIN ENTRANCE

LABORATORY BUILDING, BROOKLYN BOTANIC GARDEN, BROOKLYN, N. Y.

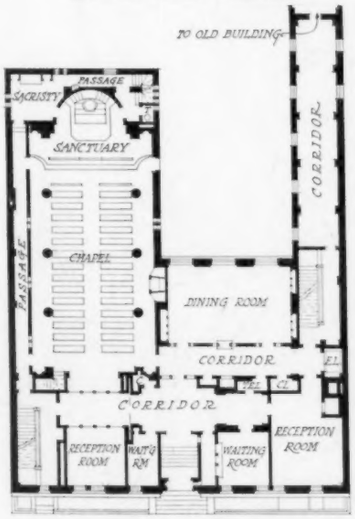
McKIM, MEAD & WHITE, ARCHITECTS



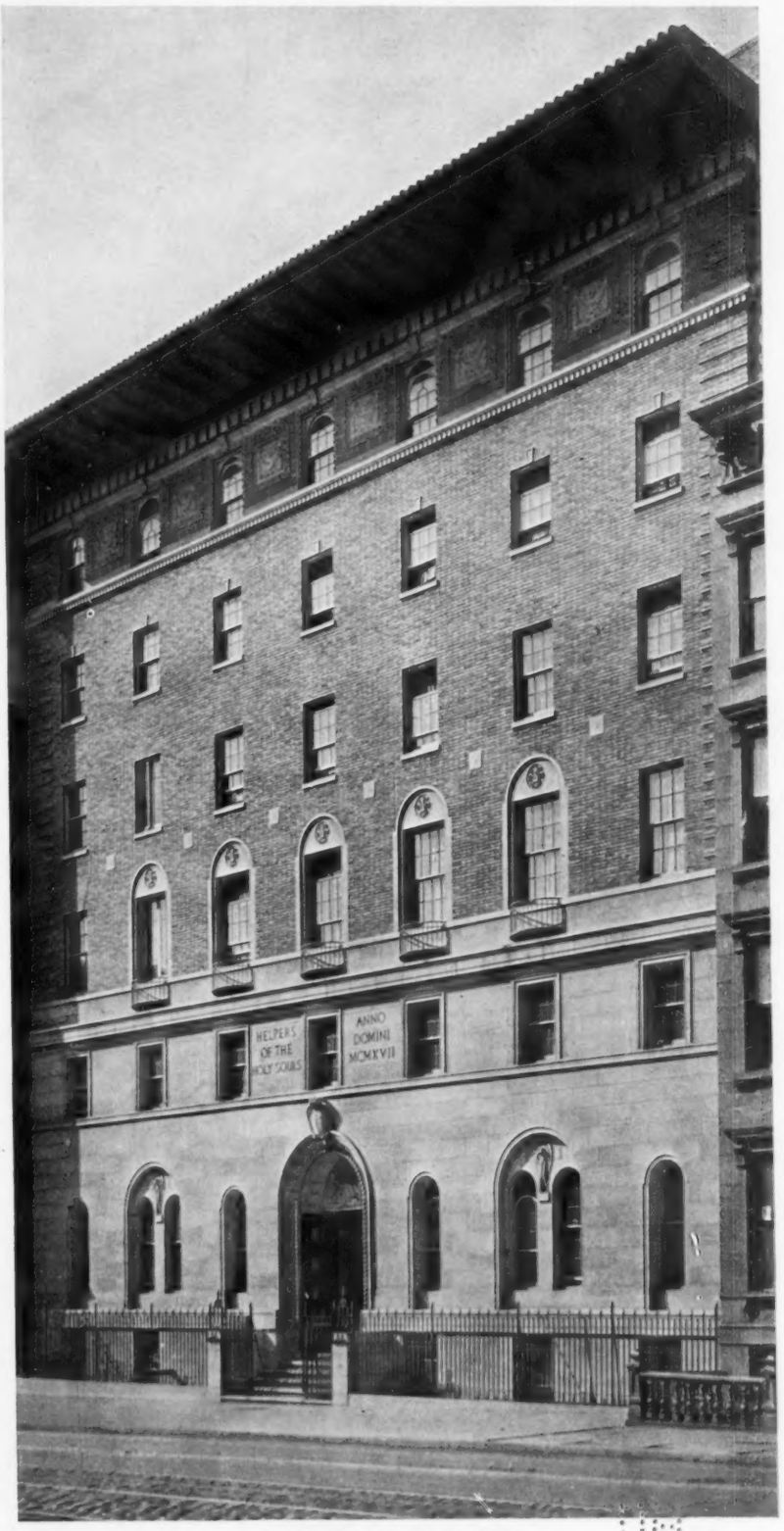
FOURTH FLOOR PLAN



SECOND FLOOR PLAN



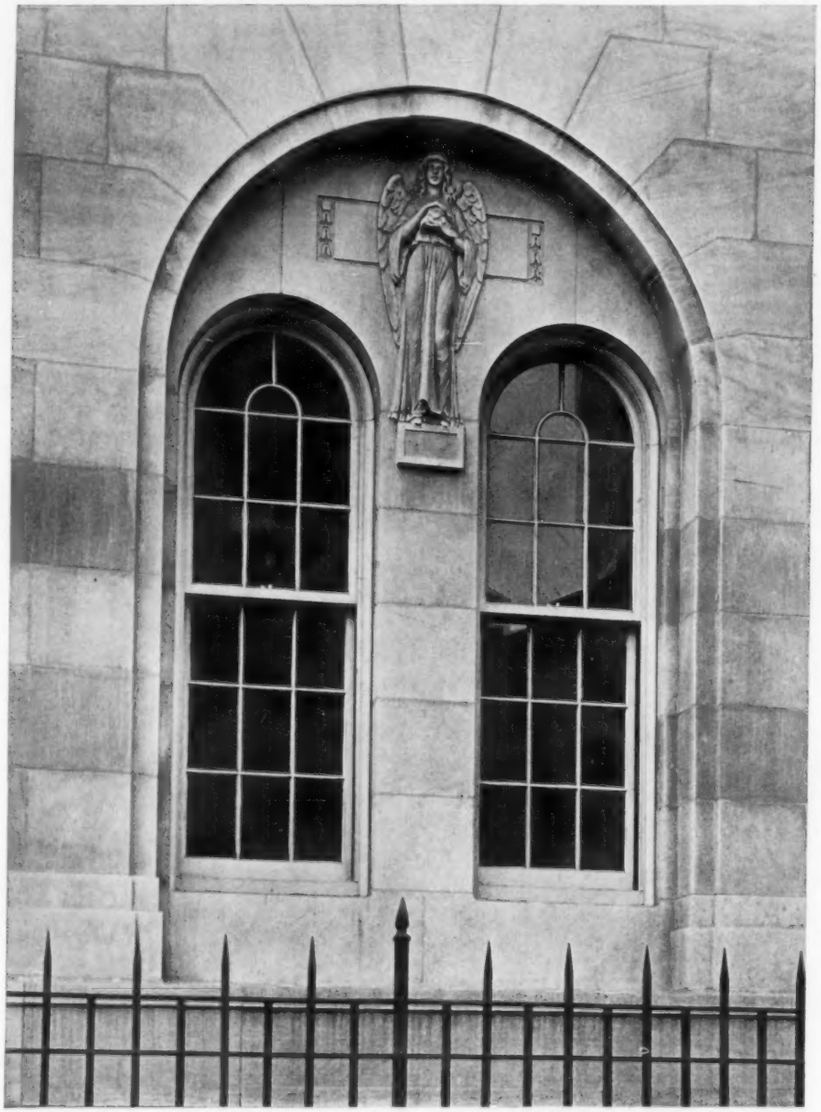
FIRST FLOOR PLAN



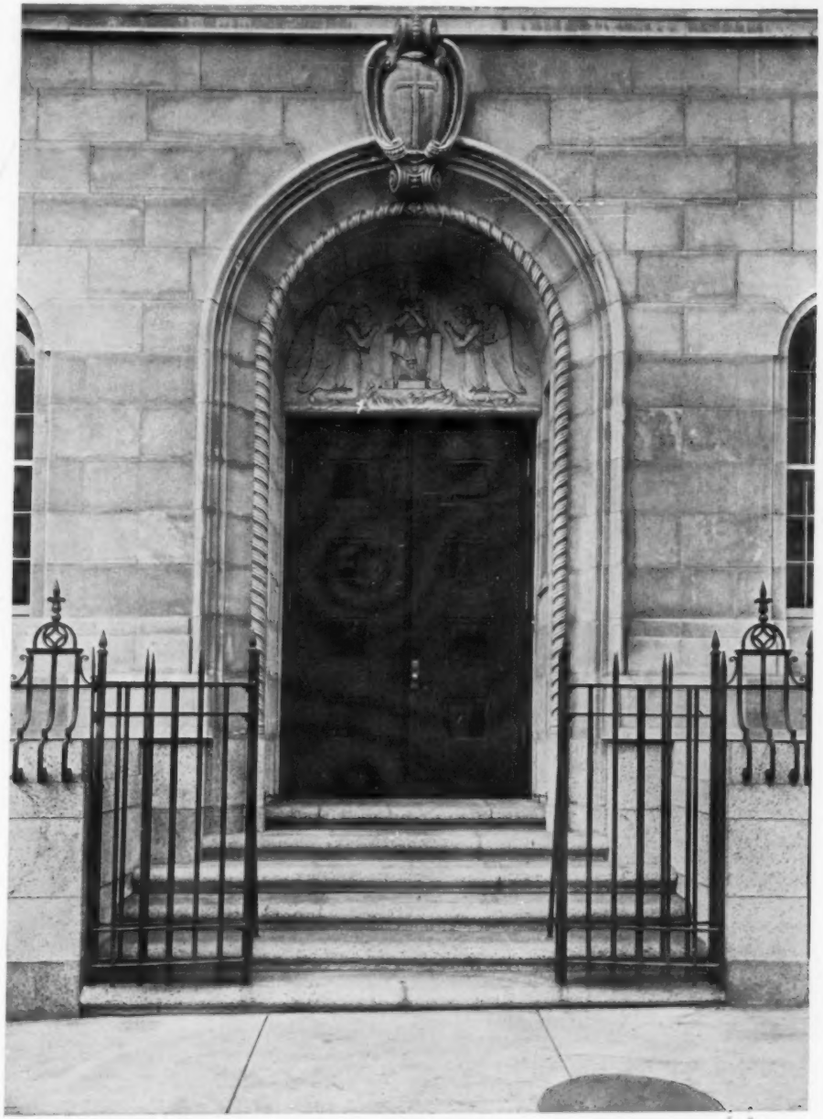
GENERAL VIEW OF FACADE

HELPERS OF THE HOLY SOULS BUILDING, NEW YORK, N. Y.

MAGINNIS & WALSH, ARCHITECTS



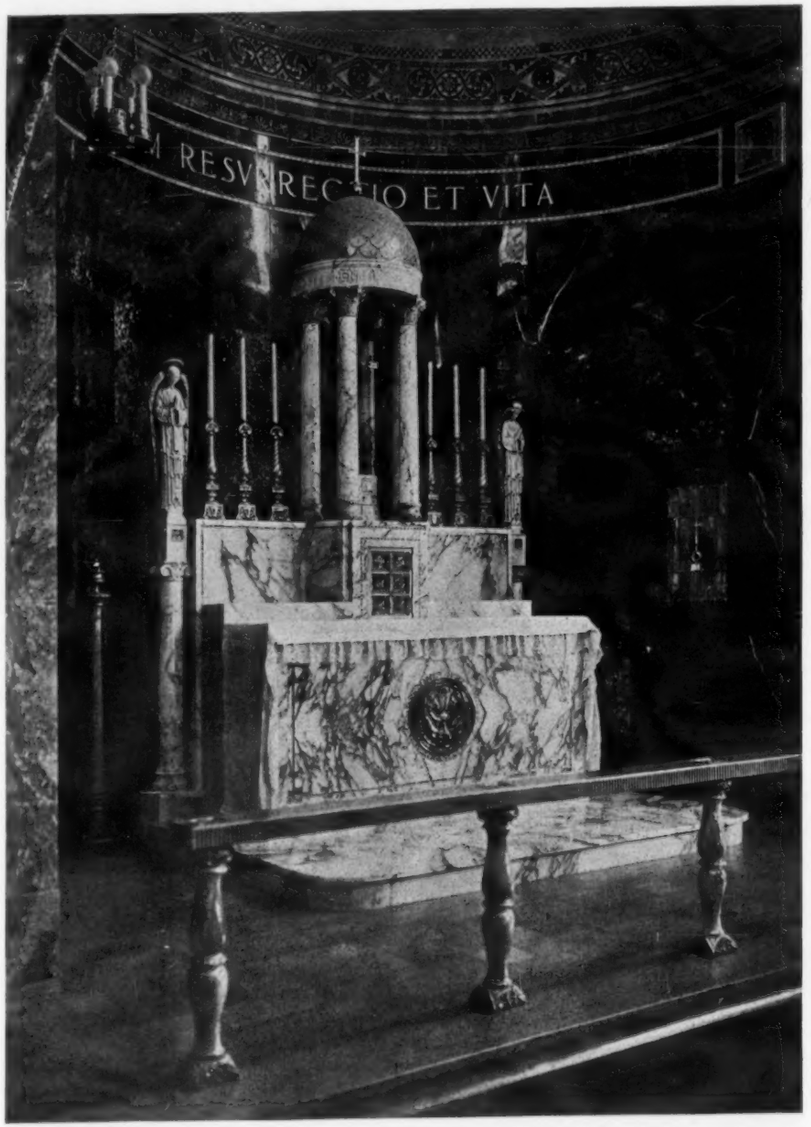
DETAIL OF LOWER STORY WINDOW



DETAIL OF ENTRANCE

HELPERS OF THE HOLY SOULS BUILDING, NEW YORK, N. Y.

MAGINNIS & WALSH, ARCHITECTS

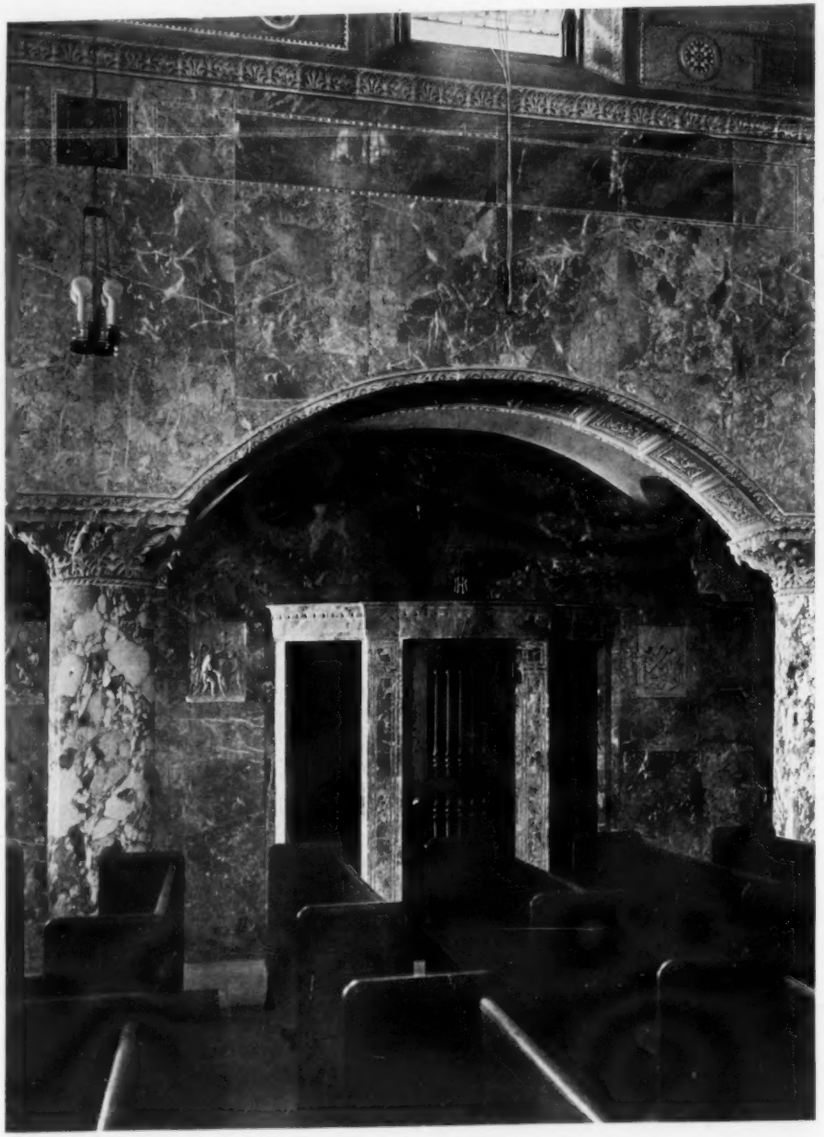


DETAIL OF ALTAR

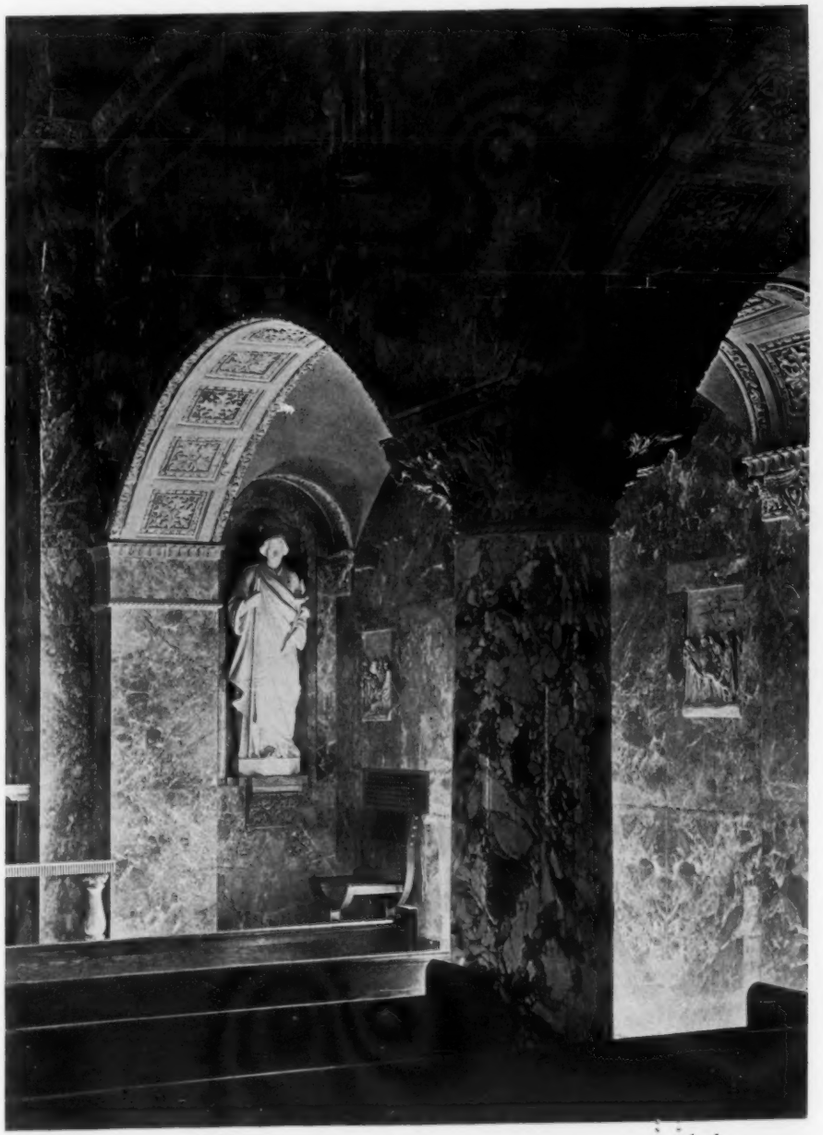
VIEW OF CHAPEL

HELPERS OF THE HOLY SOULS BUILDING, NEW YORK, N. Y.

MAGINNIS & WALSH, ARCHITECTS



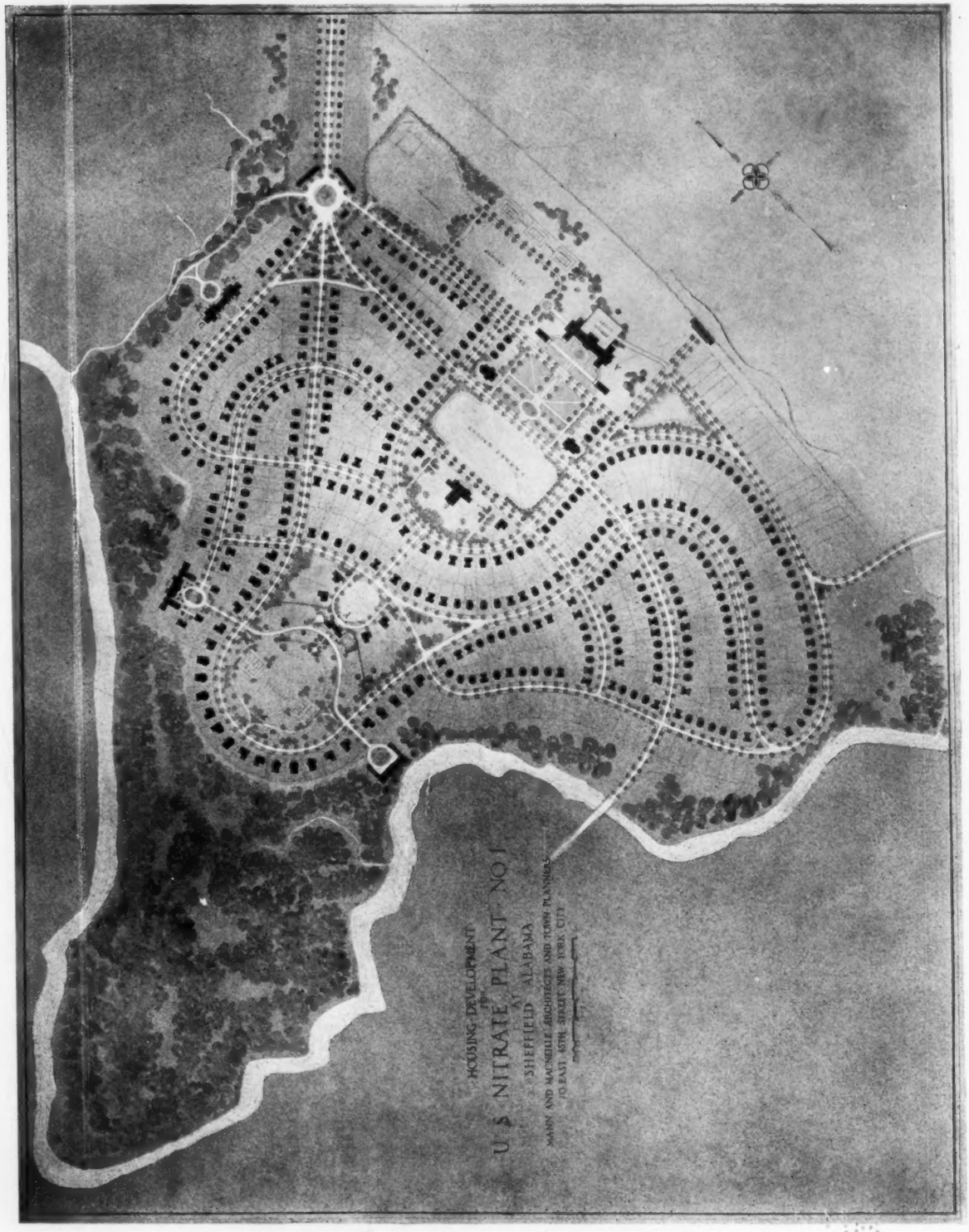
DETAIL SHOWING CONFESSIONAL IN CHAPEL



DETAIL OF SIDE AISLE OF CHAPEL

HELPERS OF THE HOLY SOULS BUILDING, NEW YORK, N. Y.

MAGINNIS & WALSH, ARCHITECTS

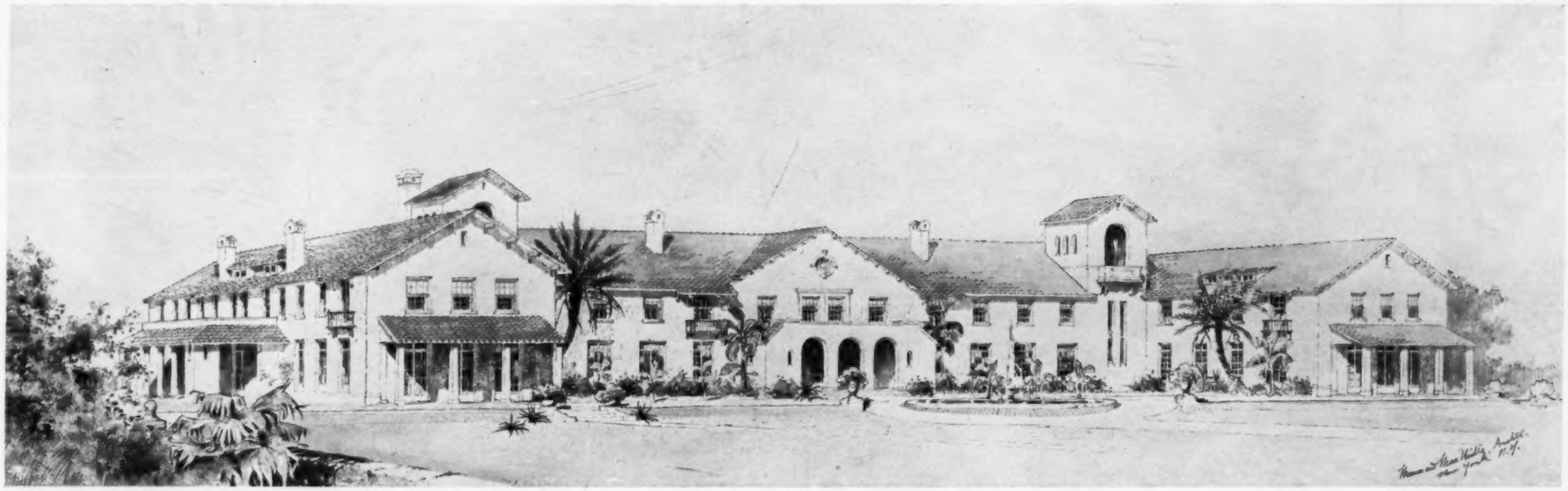

HOUSING DEVELOPMENT
U.S. NITRATE PLANT NO. 1
AT
SHEFFIELD ALABAMA
MANN AND MACNEILLE ARCHITECTS AND TOWN PLANNERS
70 EAST 45TH STREET NEW YORK CITY

RENDERED PLAN OF HOUSING SCHEME AND CIVIC LAYOUT

A Community Building
B School Building
C Shops
D Barracks
E Hospital
F Houses for Commanding Officer and his Staff
G Garage

HOUSING DEVELOPMENT, UNITED STATES NITRATE PLANT NO. 1, SHEFFIELD, ALABAMA

MANN & MacNEILLE, ARCHITECTS AND TOWN PLANNERS



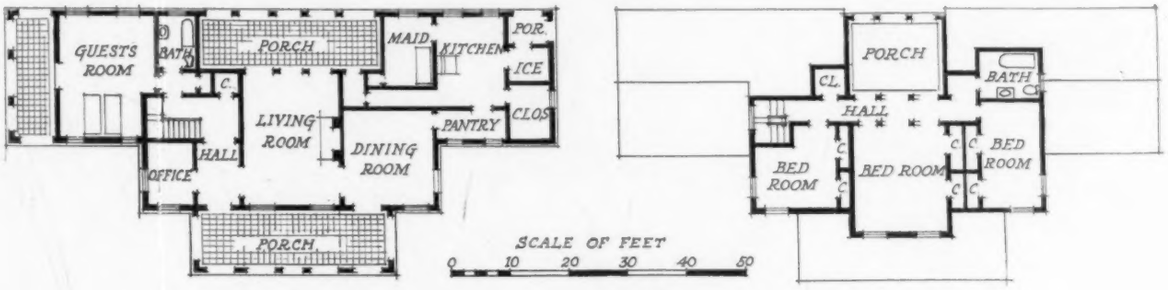
COMMUNITY BUILDING AND QUARTERS FOR OFFICERS AND EXECUTIVES

GENERAL HOSPITAL BUILDING FOR WHITE AND COLORED PATIENTS

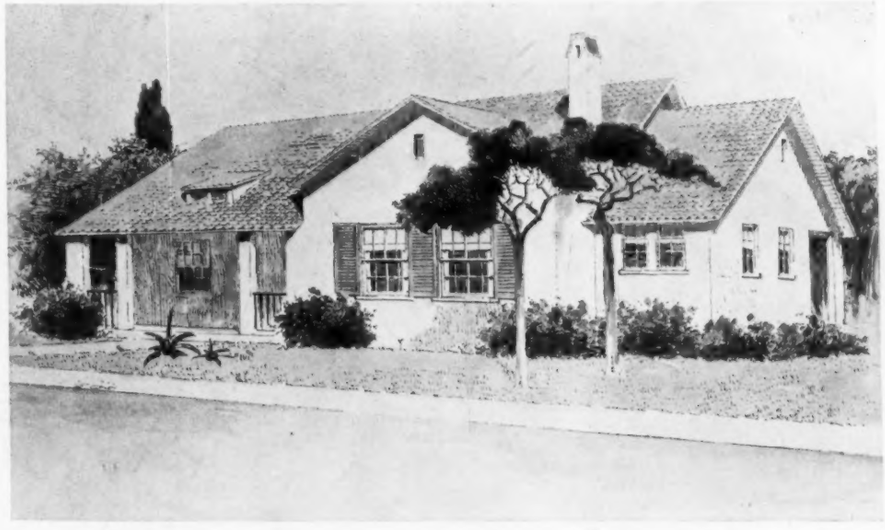
HOUSING DEVELOPMENT, UNITED STATES NITRATE PLANT No. 1, SHEFFIELD, ALABAMA

MANN & MacNEILLE, ARCHITECTS AND TOWN PLANNERS

PERSPECTIVE VIEW OF ENTRANCE SIDE, COMMANDER'S HOUSE



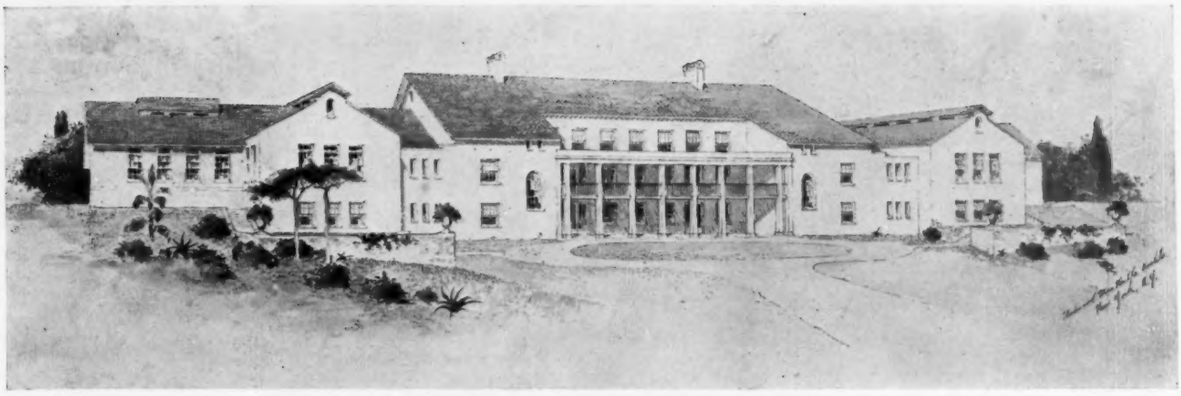
FIRST AND SECOND FLOOR PLANS OF COMMANDING OFFICER'S HOUSE



DESIGN FOR OFFICERS' HOUSE FOR CAPTAINS AND GRADES HIGHER

HOUSING DEVELOPMENT, UNITED STATES NITRATE PLANT No. 1, SHEFFIELD, ALABAMA

MANN & MacNEILLE, ARCHITECTS AND TOWN PLANNERS



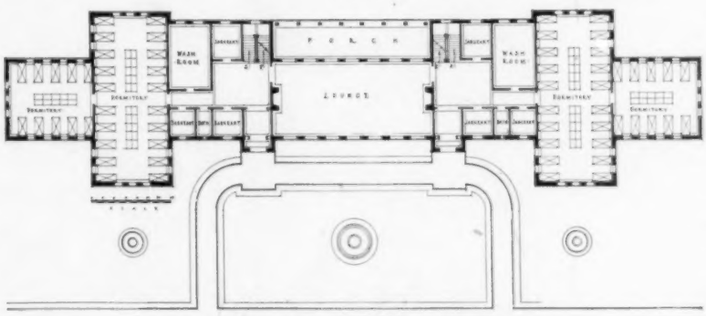
Perspective View of Guard Barracks

Housing Development for the Air Nitrate Corporation, Sheffield, Alabama

MANN & MacNEILLE, ARCHITECTS AND TOWN PLANNERS

By CHARLES C. MAY

Illustrations from drawings prepared by Leland H. Lyon of Mann & MacNeille, Architects



First Floor Plan of Guard Barracks

This building provides a dormitory and general quarters for a three-shift civilian guard Each floor is an independent unit to permit change of guard without disturbance

THE war has played tricks with many parts of our country, producing transformations which the wildest real estate speculative boom agent would have hesitated to prophesy. Returning travelers who have been absent from this country for any length of time tell us that nothing is so eloquent of an awakened America as the great number of new-born industrial communities which everywhere meet their eyes. Localities which considered themselves definitely fixed in the class of pasture, farm or waste land have suddenly found themselves snapped up and transformed into a factory group, a shell-loading plant or a chemical industry. Of the older industries, this latter has made the most spectacular expansion, but there have arisen new giants in the land of production, and among them nothing could surpass in romance the story of the inception of the air nitrate industry. Nor could the transformation of an area be more strikingly illustrated than in the section of northern Alabama adjoining the town of Sheffield.

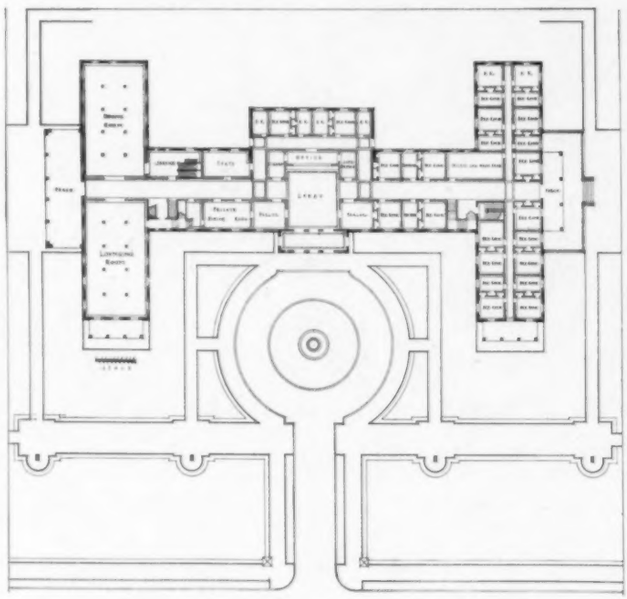
Lying advantageously upon the Tennessee River, the spot was selected for the erection of the huge Muscle Shoals Dam; just below were located air nitrate plants Nos. 1 and 2, which are destined to employ several thousand men as soon as capacity production can begin.

As a natural result of these premises, we find at least two good-sized towns in the process of building — one to house the workers in air nitrate plant No. 2 — the other, which is illustrated herewith, to act in the same way for plant No. 1. This town is the work of Messrs. Mann & MacNeille of New York, who are acting as architects and town planners. Their services are rendered directly to the Air Nitrate Corporation, but all work of every description is subject to approval by the governmental department having jurisdiction. In this case it is the Nitrate Division of the Ordnance Department at Washington.

The site of the present development is a plateau of interesting topography. It is roughly of a wedge shape, the acute angle being defined by the course of the river. The Tennessee is here subject to flood conditions periodically, when it climbs thirty feet or more up the slopes of the promontory. The town itself is, however, well insured against injury since its general elevation is another thirty feet higher than the high water level. It is safe to predict that the scenic effects during spring freshets, when the town becomes flood bound on two sides, will be one of the features of life in the community.

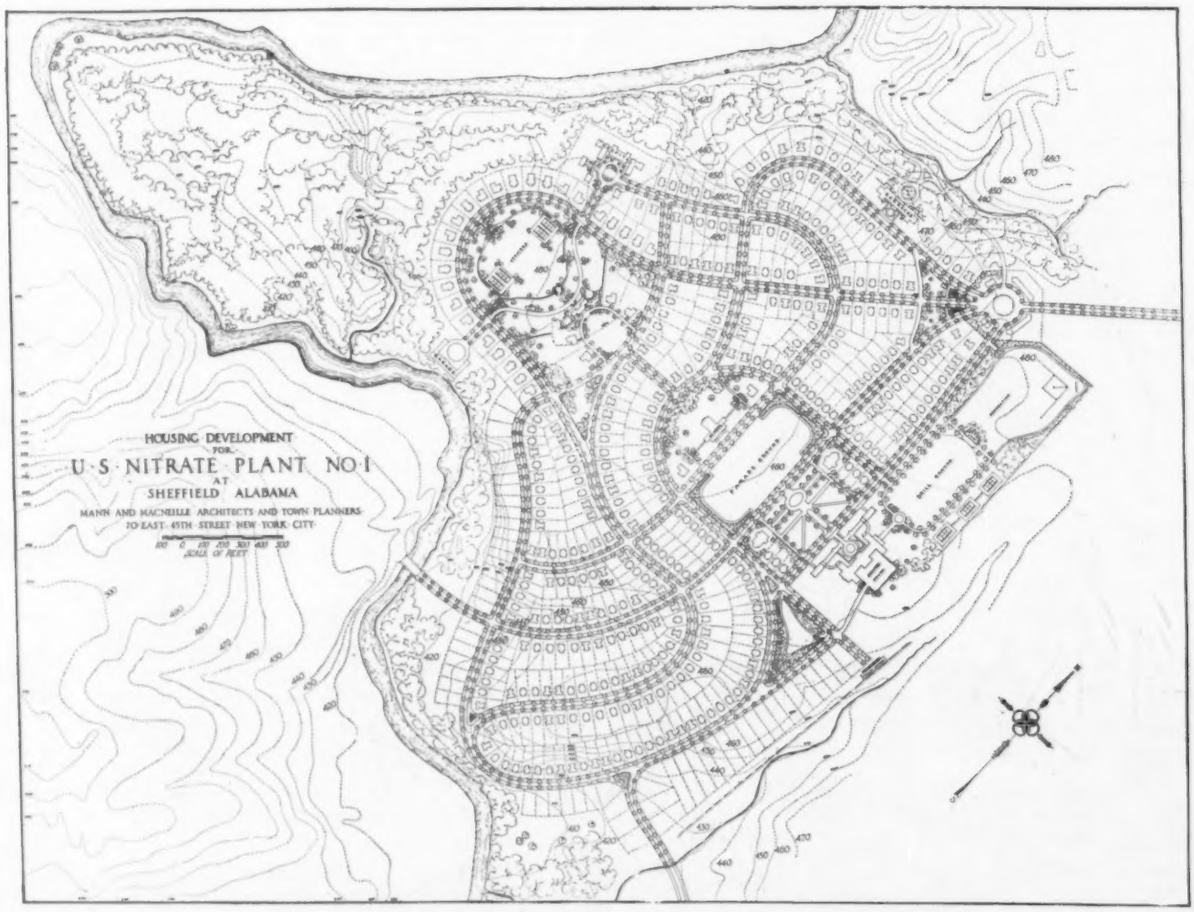
The town plan which Messrs. Mann & MacNeille have produced is a logical solution of the problem. The village is primarily residential and of a class considerably better than the average. It is permissible,

therefore, to adopt a layout of informal, curvilinear street system, with a minimum of business area, and allowances of exceptional generosity for parking, playgrounds and reservations of a like character. Of greater importance still, as a determining factor in the street system, was the topography. A comparison of the roadways with the contours will show at once how carefully the streets were laid out to give easiest gradients, best building sites, and the most natural adaptation to the lay of the land.



First Floor Plan of Community Building
The second floor is devoted entirely to bedrooms similarly arranged to those in the right-hand corner

The development being, as we have said, primarily residential, the zoning features are less marked than in many cases. The main subdivisions are between military and civilian occupancy, and between ranks in the military. The main approach from the town of Sheffield enters the village at a sort of neighborhood center—a rond-point as expressed in plan, about which will be disposed those shops which even the smaller sectional divisions of a town need to have provided. These will include a newsstand and



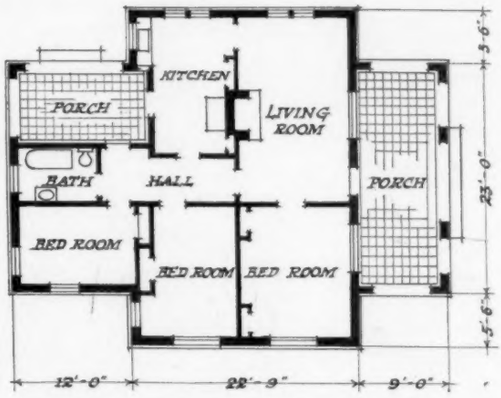
Layout of property showing topographical relations of streets and existing grades
Housing Development, United States Nitrate Plant No. 1, Sheffield, Alabama
Mann & MacNeille, Architects and Town Planners

cigar store, barber shop, drug store, tailor and shoe shop. Here, also, will be located a Government commissary and any further expansion of business which may later prove necessary.

From this point the main artery approaches the chief center of the village — the large, open square about which are grouped the school, the churches and the hotel. These are placed on the main axis of the plan — an axis which is carried up the slope to the house of the commandant, and beyond through the group of officers' houses which form a half circle around a semi-private park. This officers' group occupies the highest area of the tract, receiving also the benefit of practical possession of the high wooded promontory which looks out on two sides over the river below. The edges of these slopes at each side also give building sites for a community garage at the south and for a hospital at the north.

Street widths have, of course, been adjusted to the functions of different streets — the main approaches widest, though even secondary thoroughfares and residential streets are allowed 50 feet. Of this width, only 24 or even 20 feet will be constructed as roadway, which leaves space at each side for planting of street trees and for grass borders.

Design for Highly Skilled Mechanic's House



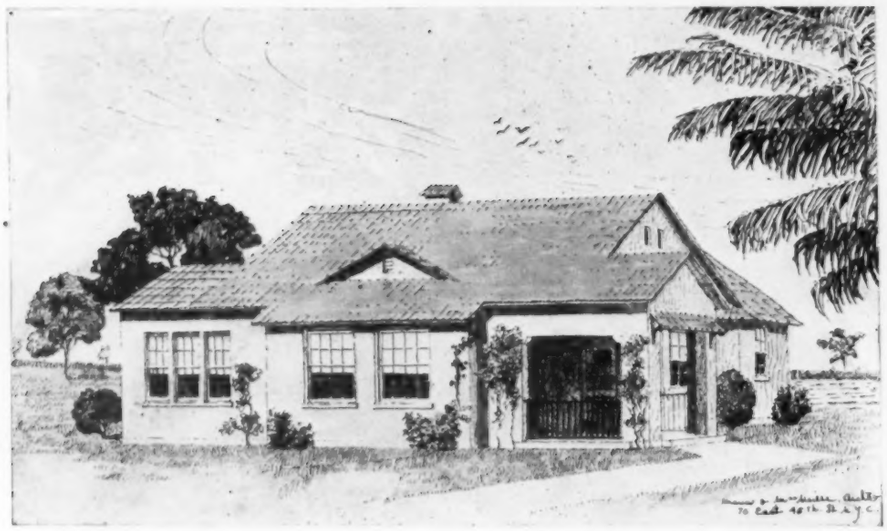
Floor Plan of Houses Above and Below

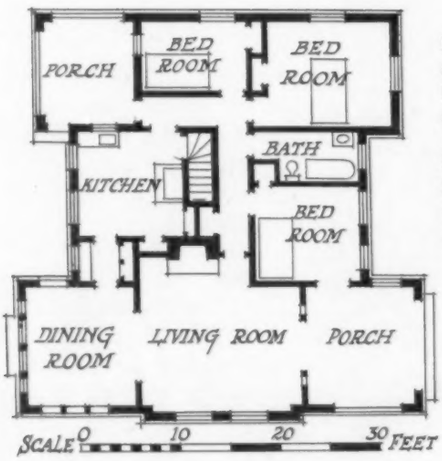
In a town plan of informal character such as this, the lotting is necessarily varied in size and shape. The variation in this case is increased by the requirements of the problem in the wide range between grades of house. Typically, the lots for employees' houses run 50 by 100 feet in depth. From these the size is graded up through the lots for other employees, officers of lower rank, then those for the four majors whose houses lie at each side of the commandant's, and finally the plot set aside for the commandant — a double-winged area containing altogether nearly two acres.

This plot is at the highest point of the plateau, looking down on the one side westward about the curving group of officers' houses, and on the eastward past the group for the majors, beyond the school and over the open square to the large hotel opposite.

This is one of a number of carefully planned compositions which

Design for Highly Skilled Mechanic's House





Perspective and Floor Plan of House for Highly Skilled Mechanics and Engineers

will produce interesting street pictures and provide adequate settings for the various buildings. The placing of these more important buildings at points of vantage in the town plan will also do much to obviate the monotony which might result from too numerous repetition of comparatively small units. This grouping will at the same time produce variety in height for, with the single exception of the commandant's house, this will be a town of one-story dwellings.

The present contract calls for the construction of four hundred houses besides the numerous buildings of special type. The houses have been designed in seven types so far as external appearance is concerned, though the plans of several of these apparently different houses are, in fact, identical. Compared with the majority of homes in workingmen's villages, these houses strike one by the spaciousness with which they are planned. This impression is heightened by the fact of having all the accommodations of a good-sized house on one floor, which, again, emphasizes the advantage of having ample space on the lots. It is distinctly an arrangement for use in cases where the original land cost is small, and a large lot may be assigned to the individual householder without making the original cost and consequently the rent unduly high. In this case the original cost of the land was so low as to become practically a negligible quantity.

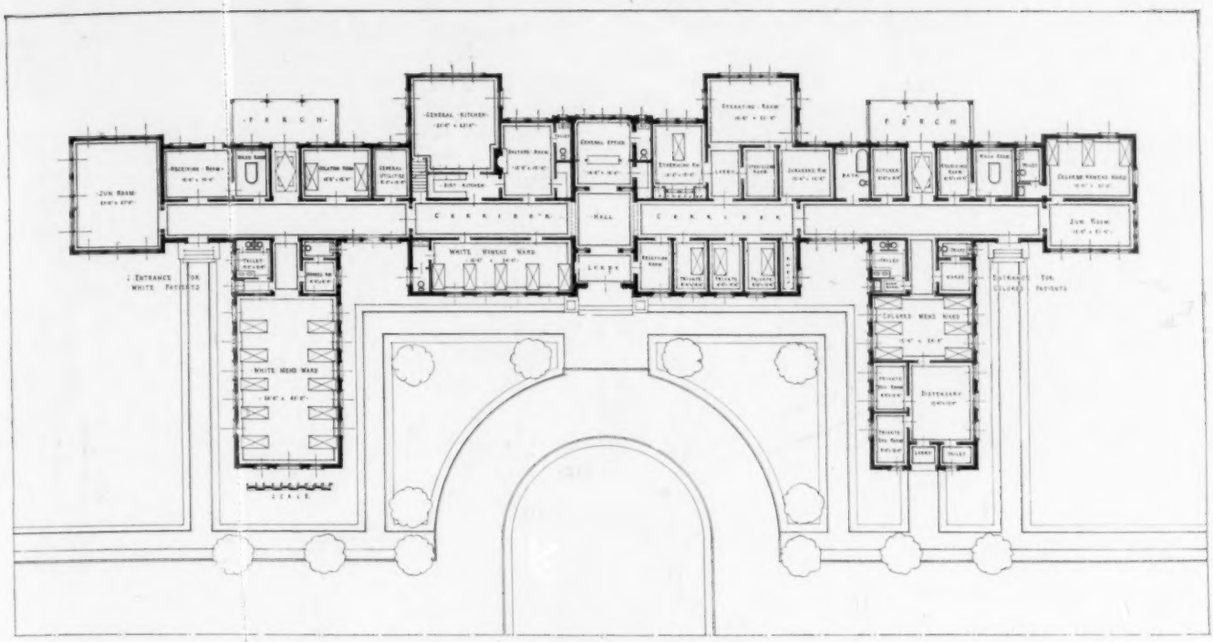
The smallest type is one of five rooms, three of them bedrooms. One of these opens from the living-room so that in small families it may be used as an additional day room, parlor, library, or what you will.

Mr. Veiller has recently called attention to the stock size rug as a standard for bedroom dimensions. He spoke only of the 9 x 12 size, which applies in a majority of cases only to the largest of the rooms. It may be permitted to extend the note to include the next size smaller rug (8 feet-3 inches x 10 feet-6 inches) which is the size most usually laid in a single bedroom. Even that size is too large for the minimum rooms accepted under the government standard of 80 square feet.

Other types have the usual trio of rooms for living purposes instead of combining the living and dining-rooms as in the case of many houses in other developments now under construction. The type assigned for use by the four majors is an L-shaped block containing seven rooms and bath. The same spaciousness prevails here, with an exceptionally good separation of the working portions of the house from the sleeping quarters.

The commandant's house dominates in size as well as in position. Its length of nearly 100 feet permits the inclusion of a guest's suite on the first floor, so that the second may be reserved solely for family uses. This house is further exceptional in possessing a cellar, which has in most of the houses been omitted.

It seems that in this nitrate plant, which will be operated directly by the Government, the proportion of military population will be unusually large. This includes many officers, but also a considerable number of enlisted men, many of them skilled chemists, for whom living accommodations of high standards must be provided. A three-shift civilian guard is accommodated in a building, more like a college dormitory than a soldiers' barracks, which really affords a combination of hotel and club life that would

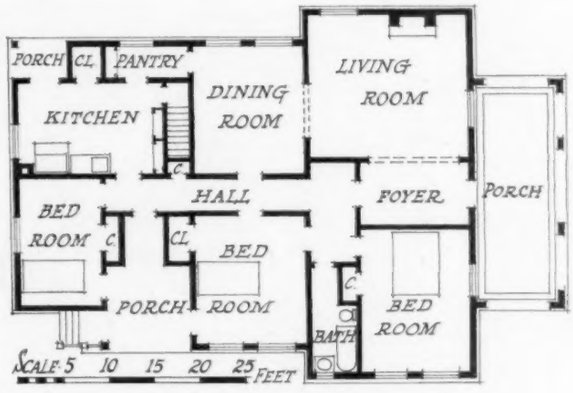


Floor Plan of General Hospital for White and Colored Patients

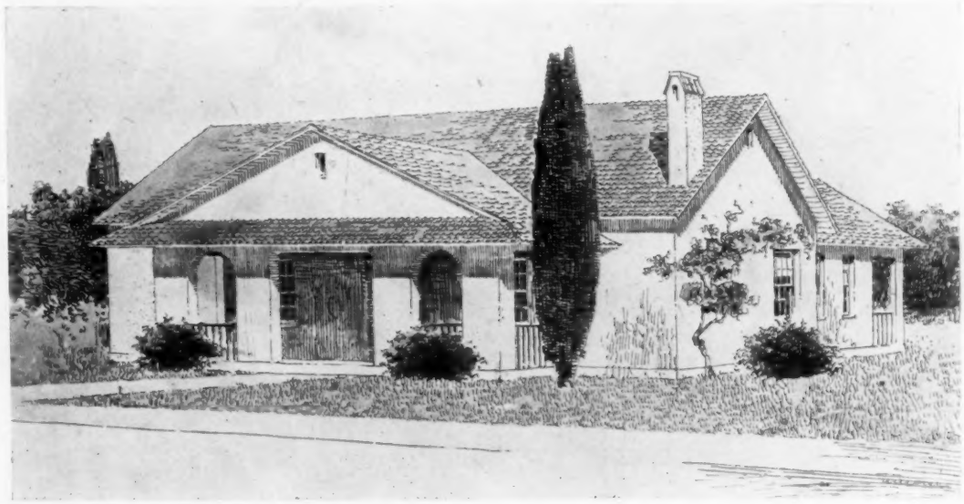
be hard to match outside a government plant. Each shift comprises about thirty men and in designing the building each floor was made a complete unit to avoid disturbance during guard change.

Besides these quarters there is special provision for unmarried officers in the community building, which furnishes in addition to sleeping quarters many features of club life. A single room is alloted to each man and the building will be occupied in addition to officers, by executives and heads of divisions, together with official visitors.

A well equipped hospital to be maintained by the government is a part of the first building program. This will take care of all classes of patients, young and old, including a wing for negroes. Grouped near by are houses for the doctors, and a home for the nurses. We have already noticed in passing that a large community garage for use of commissioned officers, is to be built, instead of a great number of tiny individual garages. It will be a great gain for the appear-



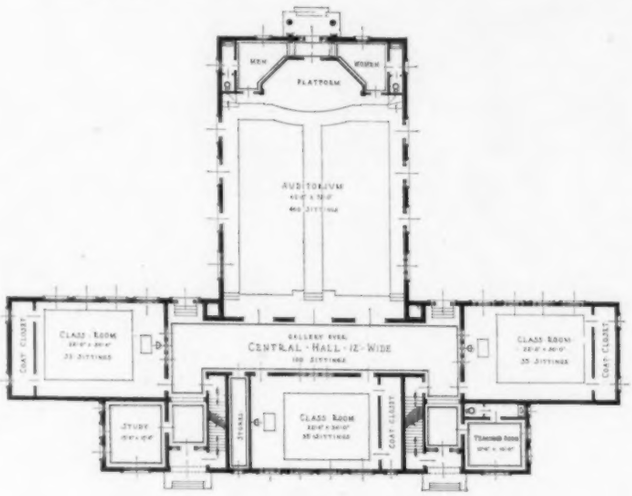
Floor Plan of House Shown Below



Perspective of Typical House for Officers of High Grade

ance of the neighborhood, at only the slightest sacrifice in accessibility because of its central location.

Besides these buildings of a semi-public nature there is the school, which contains, aside from usual classroom features, a corridor 12 feet wide. This will be used as a part of the regular school equipment, and not, as ordinarily, for a passageway and nothing more. The school also contains the auditorium, a comfortable room 42 x 52 feet, with stage and dressing-rooms.



Floor Plan of School Building
The auditorium seats four hundred people and will be used for Community Gatherings, Theatricals, etc.

The public utilities for the community are of new construction built for this purpose rather than extensions of existing facilities. Sewers, for example, are laid throughout, connecting to septic tanks, from which the effluent will discharge through Spring Creek into the Tennessee River. Electric light for street and house lighting will be supplied from the plant. Water supply will be secured from wells driven on the property.

The construction of the houses is as substantial as their planning is ample. Exterior walls are in no case of frame, but of hollow tile blocks, upon which is applied the stucco, which forms the surfacing material throughout. Floors, beams and rafters are of wood, as are interior partitions, but the roofs are to be covered with some form of tile, which will render the exterior of the houses fire-resisting to a high degree. From the view-point of the community this reduces the danger of general conflagration to a minimum. On the other hand, the unity in construction, in roofing and in material of exterior walls has given the architects a very exceptional opportunity to produce a homogeneous design which will lack nothing in variety of form, but should prove of the greatest value æsthetically to the completed town. The houses are all electrically lighted, and have complete plumbing installation. The matter of heat is, fortunately, not essential in Alabama. These houses are, accordingly, provided only with open fireplaces in the living rooms. For the rest, all elements that enter into the construction or equipment are in every way abreast of or ahead of the forward march of industrial housing standards, and give promise of a development which will be unique among the Government towns.

Perspective View of School Building
Mann & MacNeille, Architects

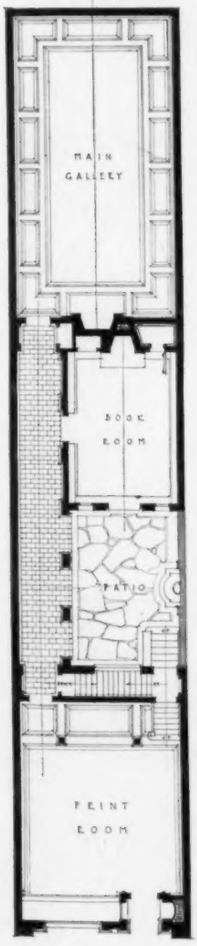
The Print Rooms of Hill Tolerton, San Francisco

WILLIAM C. HAYS, ARCHITECT

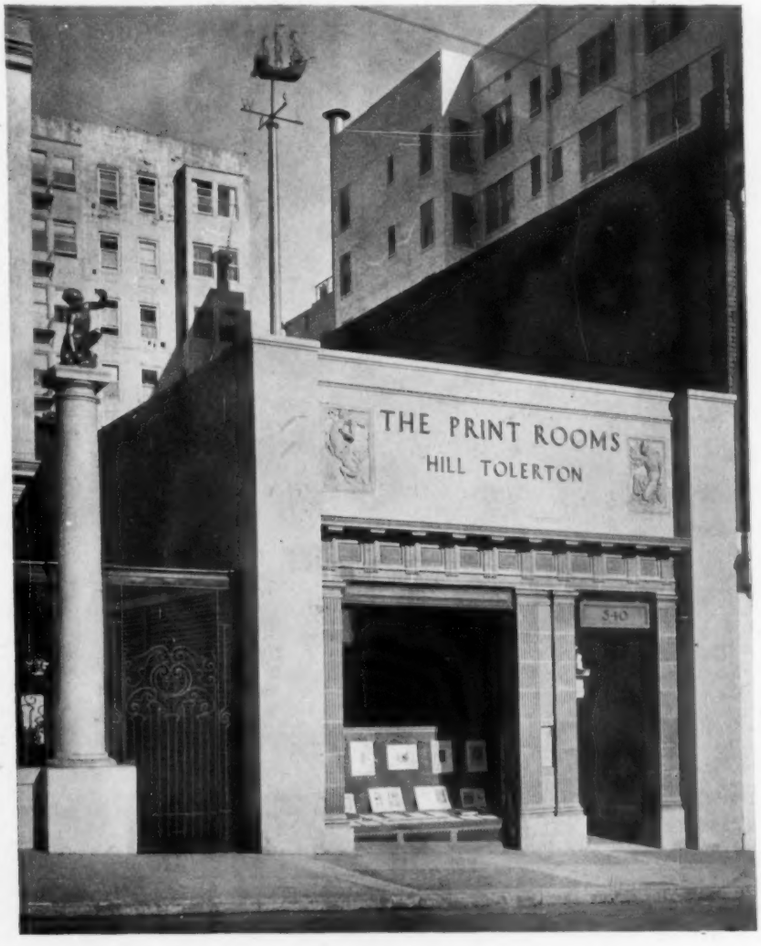
THE proper exhibition of paintings, prints and art objects for purposes of sale requires a fitting background of architectural character. The musty old book stalls where patrons browsed about have their place in literary memoirs but modern taste better appreciates an opportunity of seeing books and prints tastefully displayed so that the prospective purchaser may have ample room in which to examine what interests him and judge its effect in surroundings somewhat akin to those in which the object will eventually rest.

Such an establishment is the Print Rooms of Hill Tolerton in San Francisco. Here a narrow and deep lot has been utilized most successfully for a building but a story and one half high that expresses on its street facade, even in the most severely simple manner, the purpose to which it is dedicated. Once inside, the visitor is immediately placed in the appropriate atmosphere for a comfortable perusal of the art exhibited. The interior effect is of the most satisfactory order, yet it was obtained at a very moderate expenditure; it depends entirely upon good proportion, nicely balanced openings and wall surfaces relieved with judiciously placed ornament.

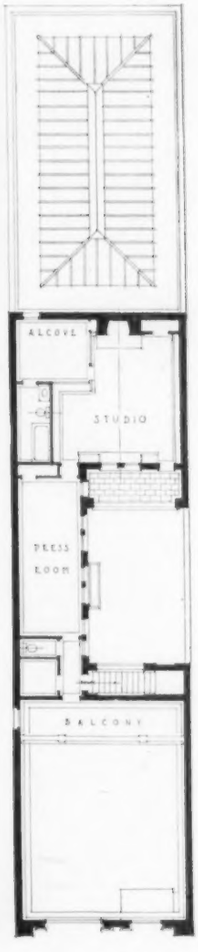
The main gallery at the rear is lighted by a large skylight and is reached from the print room at the street end by a long arcaded and paved corridor. This corridor forms one side of an open court for part of its length which serves to admit daylight into the center of the lot, enabling the entire building to be adequately supplied with natural light. It is paved with broken flags, edged by a brick border, repeated in the arch enclosing the marble wall fountain. The pleasing arches of the corridor and entrance to the book room, and the softly toned woodwork of the balcony, stair rail and flower boxes combine with the growing vines and plants to make a spot of the greatest charm.



First Floor Plan



View of Street Facade



Mezzanine Floor Plan

DETAIL OF PATIO, LOOKING TOWARD BOOK ROOM

PRINT ROOMS OF HILL TOLERTON, SAN FRANCISCO, CALIFORNIA

WILLIAM C. HAYS, ARCHITECT

The dual purpose of the building, that is as a salesroom and also an exhibit gallery is well expressed in the plan. The exhibition space is provided in the main gallery at the rear of the building, where under perfect lighting conditions exhibits may be viewed with no interruptions. The book room is equally well adapted to its use and the attractive vista to be had from it into the patio is an invitation to linger. A small vault at the side of the fireplace in this room allows space for the storage of especially valued books. The print room at the front of the building is equipped for the transaction of business and is also utilized for the display of pictures.

View of Main Gallery from the Entrance

View of Book Room, Looking Toward Patio

View of Print Room from the Entrance

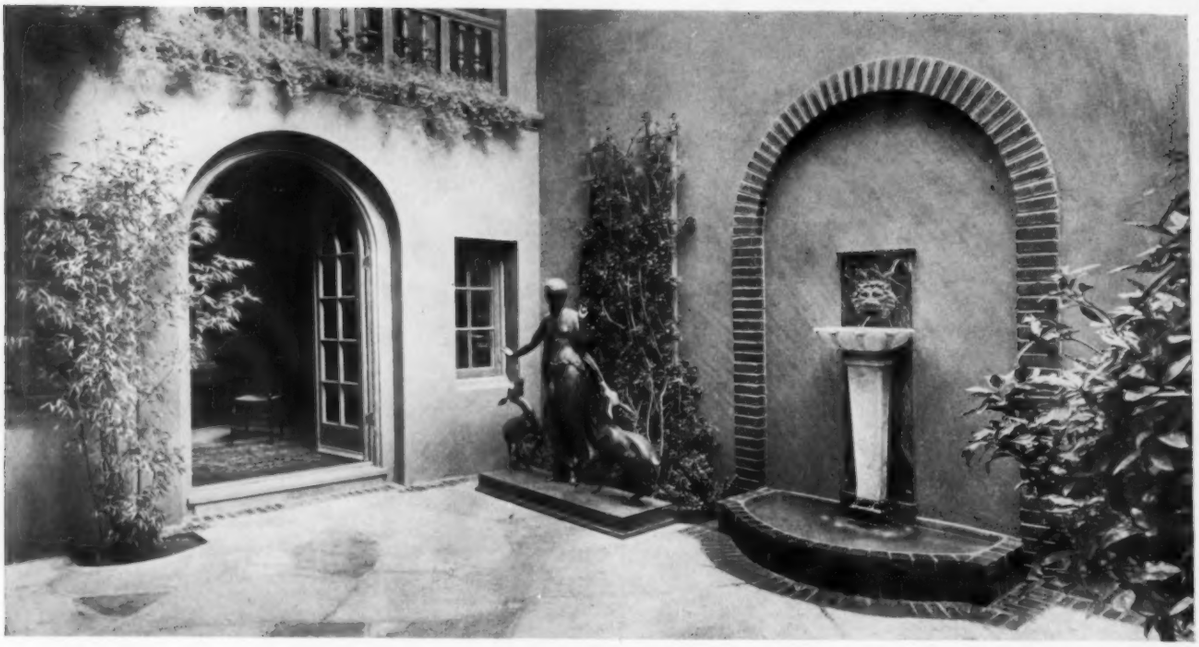
On the mezzanine floor are the private office of the proprietor and a small room for the printing of etching plates.

The illustration of the gallery accompanying this article shows an exhibition of the work of Leon Bakst and Paul Manship. The sculptured group in the patio is also the work of the latter artist.

The street facade is severely simple in treatment though possessing a distinctive character that gives it prominence out of all proportion to its size. The main walls are of smooth cement plaster similar to the walls of the patio. The display window and entrance are framed with pilasters and a Doric entablature in terra cotta above which the name of the establishment appears in raised letters of chaste design, flanked by polychrome terra cotta bas-reliefs representing Minerva and Pan, the modeling for which was done by Herman A. MacNeil. An added touch of interest is the weather vane at one corner topped off with a model of a full rigged old sailing vessel.

The building is a successful solution of a special problem in a business structure and proves the value of expressing, through appropriate architectural treatment, the use for which a building is intended, as well as the further possibility of securing good architecture through a wise use of simple materials.

The Problem of the Unethical Competitor



TWO VIEWS IN THE PATIO
PRINT ROOMS OF HILL TOLERTON, SAN FRANCISCO, CALIFORNIA
WILLIAM C. HAYS, ARCHITECT

direct pay of owner or builder, as the former may

3. Advertising and soliciting, personally and

The Problem of the Unethical Competitor

By WILFRED W. BEACH

IN a previous article* the writer touched upon the unbridled campaigns of advertising put forth by the more enterprising of those comparatively new constructionists who may be collectively styled the "cost-plus builders."

Undoubtedly, many architects who have not directly suffered from the inroads made by these concerns will fail to discern any great cause for alarm in their considerable increase. Since architecture first rose to the dignity of a profession there has ever been this, that or the other thorn to prick its practitioners into consciousness of the fact that their employment is not necessarily indispensable to the activities of the prospective owner.

It may be said, "Why all the outcry over these 'cost-plus' fellows? You kickers can always find something to complain about. But one should simply go ahead and attend to business and advise others to do the same. These business vexations take care of themselves and always have."

Well and good — for those whose practice has not been largely usurped by the clever and unscrupulous solicitors of these newcomers. But those who have been compelled to divide — and unequally — may well find just cause for alarm in the situation.

In one community supporting five architects there were six commercial buildings, costing upwards of one hundred thousand dollars each, erected in a recent season. Two of these were cared for by two of the local talent, one by an outside architect and the remaining three by stranger concerns of the "cost-plus" type; and the three aggregated seventy-five per cent of the cost of the six.

But by far the most prolific field for their endeavors is not in the cities, large or small, but in those growing towns where architects are as yet unknown or where the profession is misrepresented by some bumptious knave or ignoramus for whom his fellow citizens have no respect.

If these latter have a bank building or other considerable edifice to erect, they have been for some time storing away the "magazines" and other profusely illustrated literature of these magnificent advertisers, the majority of whom are worse charlatans than the promulgators of alcoholic patent medicines. The remarkable growth in number and wealth of these new builders is such that it may not be exaggeration to state that already more than half of all the larger banks, office buildings and hotels erected in cities and towns of less than a hundred thousand population throughout the entire central portion of the country is done without the assistance of architects of regular practice. And something of this is felt also in the larger cities and in the East as well.

Is this serious?

If our lost clients were now being better served through our frustration, it would be selfishness only that would induce our complaint; but in this instance we have the cause of the public as well as our own for which to fight. And the field of commercial building is the real backbone of our livelihood. In seeking a cause for the partial defection of this section of our clientele, we must gain a lively appreciation of the fact that your average citizen has little patience with that side of our professionalism which strives to maintain high ideals of beauty, primarily, and business ability, secondarily. What he most desires in an architect is a well-balanced blending of the two — in which he best values the business side. He admires an artist — but he hesitates about allowing that artist the control of his own or trust funds.

If we as a profession do not measure up to such standards, then may we surely anticipate still more loss of prestige to those who do not hesitate to magnify our shortcomings and the weaknesses of the contract system which we support.

True, we can, in each individual case, point out the falsity of the arguments presented against us and can prove, if afforded opportunity, that the cost-plus propaganda is offered generally only as a cloak under which unprincipled swindlers operate solely to build up their own fortunes. If we are good business solicitors, we can do this.

But such unequal competition is temporal only. Do we not need to completely revolutionize our methods of practice to meet conditions that are manifestly changing?

To recognize this more distinctly, it is essential that we take observation of the growing inclination in the best of our commercial laity to regard the contractor as a business friend rather than as a doubtful adversary. Such a client would much rather see his architect and contractor, together with their employees, working on amicable terms in the interest of their mutual employer than to witness the wrangling and working at cross-purposes which must often accompany the conscientious enforcement of the terms of a specification; and all but the architect working contrary to the well-being of the structure they are fabricating.

It is really this new-found friendliness of the owner for his builder that is our undoing — and his; and the association will increase with the growth of "community spirit" exemplified in fraternal orders, commercial clubs, and the like. Let us realize this and make up our minds to do, each of us, one of three things: continue as at present; or become relegated to the position of designing architect only, in the

* June and July, 1917.

direct pay of owner or builder, as the former may arrange; or prepare ourselves to maintain the position of controlling factor in building, or to regain such position if, perchance, it be already slipping from us.

Of the first and second of these courses there is little to be said. Natural processes of evolution will operate to determine their working out.

But the third possibility is worthy the consideration of every virile practitioner whose red blood and pride of calling clamor for a means of giving his client the best possible that should be.

To do this necessitates not, as Mr. Sturges suggests, "a return to older and wiser methods," but a rehabilitation of the old spirit of the "creator of structures."

The difference between the old and the desirable new lies mostly in the single matter of the financing of building. Generations ago, when nearly all work on a building was manual, the master-builder needed no capital. He and his assistants merely worked while the owner footed the bills.

With the increased use of machinery in actual building construction, a small amount of capital is necessary — not the enormous capitalization of the quasi-financial-contracting corporations of our largest cities — but merely enough to pay for the equipment and a month's running expenses of each job under way. Nor does the term "running expenses" include any part of the pay for material and subcontracts. Such can wait until the monthly estimate is forthcoming unless the owner or builder chooses to take advantage of the possible cash discount.

It is the lack of such equipment that is largely responsible for the failure of architects to compete on more equal terms with the "cost-plus" builders — and it is the use (or misuse) by the latter of capital for such equipment and for voluminous advertising and salesmanship that has enabled them to take their place among other acquisitors of sudden wealth.

Now, if the public wants cost-plus building, and wants it so earnestly that it is willing to pay enormous profits to those who furnish it unethically, is it not compulsory for us to provide such service *ethically?* Obviously it is, if we are to prove true servants.

To do this we must either (1) seek a place at the head of existing building concerns; or (2) gradually increase our functions to meet the new conditions; or (3) take the hazard at a single vault and provide the equipment and forces requisite for the complete work.

Few of us will find opportunity to do the first, if we should so desire; nor, if we did assume that position, would we be likely to find it possible to inculcate into such concern the ethical precepts for which our profession must remain sponsor.

To expand in the second or third manner means a very considerable step for most of us. It means:

1. Financing.
2. Field organization.
3. Advertising and soliciting, personally and otherwise.
4. Equipment.
5. Increased accounting, estimating, etc.

The providing of the first, fourth and fifth of these is simple and the third is purchasable. But the second is the stumbling block.

When the cost-plus solicitor chatters so nimbly about "our own forces" and what they so economically and efficiently do for the client, he is but guilty of one more misleading statement. In most cases the "own forces" consist of those in the office and a single man loaned therefrom to run the job, or perhaps one or two other foremen of varying terms of employment. The other employees are picked up as needed, which the agent will obligingly admit if his prospect insists upon recognition of local mechanics.

But, when an architect goes into this, he must do so from the ground up. He must know all his supply concerns so well that he can treat them as he is treated and must actually have his own forces that will take the materials these concerns deliver and install them with true economy and efficiency.

And when one of us shall attempt to serve honestly our clients in this manner, he will encounter concretely that fact with which we are all now more or less familiar in the abstract, *viz.:* that the real power in control of building at the present time is not the owner, nor yet the architect nor even the contractor, but the building trades union. Furthermore, in some of our larger cities, we would find that there were no building mechanics who would work for such an organization unless it were affiliated with a general contractors' association.

It has been suggested that the available supply of building mechanics not now controlled by the unions will have to be augmented by the product of the trade schools. But, perhaps, the need will be more adequately satisfied by a modification of the mechanical training institution as we now have it—a sort of "mechanical atelier" in which the architect, then a true master-builder, supervises through his departmental heads the training of apprentices in all lines of building activity, the while his field forces erect the buildings his office forces plan.

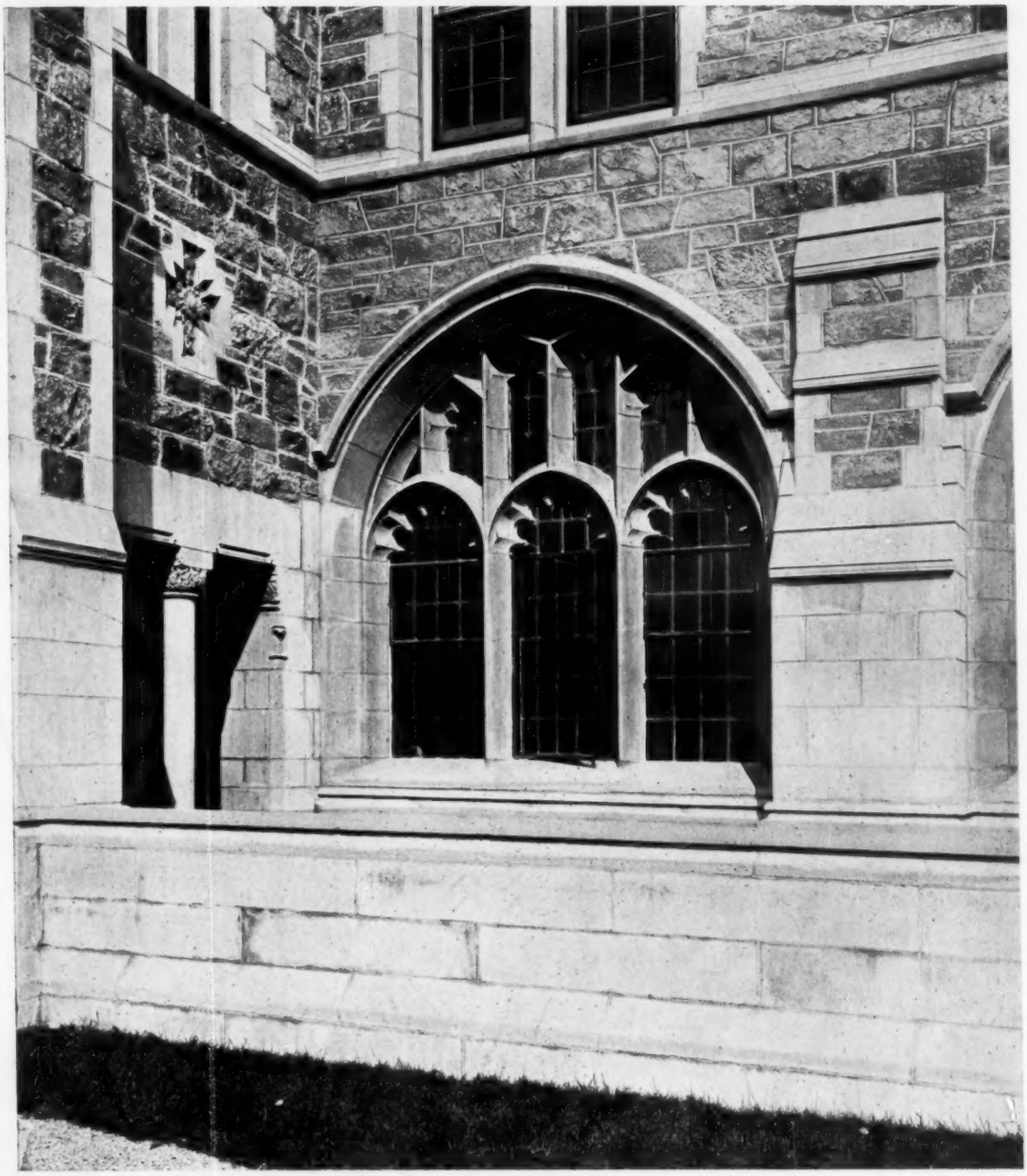
The word "apprentice" is used advisedly instead of "student" and expresses at once the fundamental difference between the training so acquired and that offered by regular schools. These apprentices would be paid for their services and would attend classes just as do the employees of great factories.

Mayhap those of us who are most visionary can look forward to the time when there will be a league of architects heading such building trades organizations — can imagine trade guilds founded on the principle, "He most deserves who best serves," instead of the present unwritten law of the trade union, "Do the least you may for the most you can exact."

First Story Window · St. Mary's Hall · Boston College · Maginnis & Walsh Arch'ts

THE FORUM COLLECTION OF MODERN GOTHIC ARCHITECTURAL DETAILS

PLATE EIGHT



THIS detail shows the adaptation of simple Gothic forms to windaw tracery where modern lighting conditions require a large glass area. A four centered arch was used because of the low story height. The tracery which is of concrete stone was designed to preserve proper scale with the typical classroom windows above, without losing the charm of good Gothic form.

TRACERIED WINDOW, ST. MARY'S HALL, BOSTON COLLEGE, NEWTON, MASS.

MAGINNIS & WALSH, ARCHITECTS

DETAIL DRAWING BY RALPH H. HANNAFORD ON FOLLOWING PAGE

First Story Window · St. Mary's Hall · Boston College · Maginnis & Walsh Arch'ts

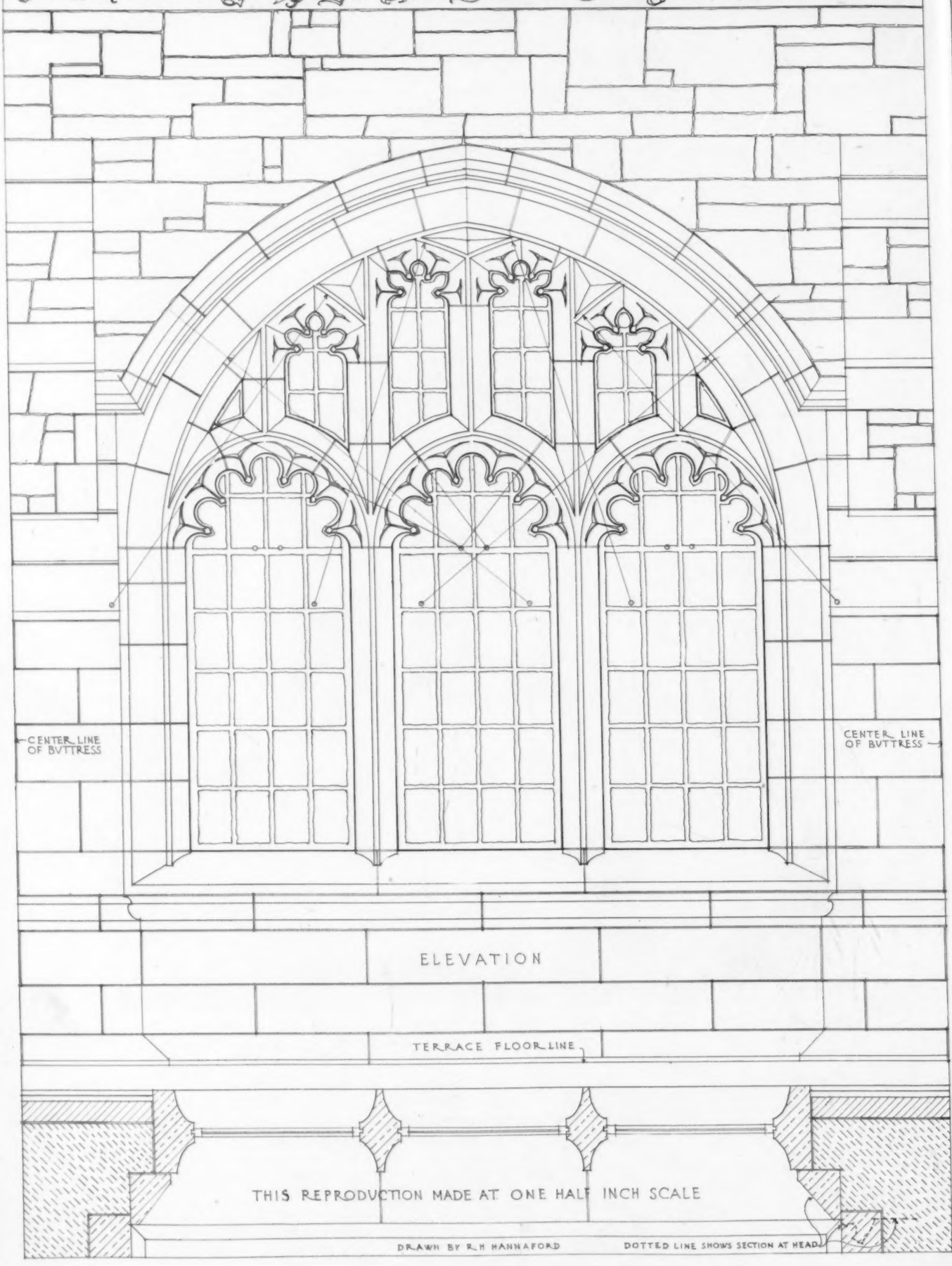

CENTER LINE OF BUTTRESS
CENTER LINE OF BUTTRESS
ELEVATION
TERRACE FLOOR LINE
THIS REPRODUCTION MADE AT ONE HALF INCH SCALE
DRAWN BY R.H. HANNAFORD
DOTTED LINE SHOWS SECTION AT HEAD

PLATE DESCRIPTION

PUBLIC LIBRARY BUILDING, INDIANAPOLIS, IND. PLATES 33–39. This building is of fireproof construction throughout. The interior is of Indiana limestone with granite steps and base course. The delivery room and surrounding galleries have walls of imitation Caen stone decorated with simple mouldings and modeled band courses of slight projection. The ceiling is of plaster decorated in brilliant color. The two reading rooms are wainscoted in oak with touches of gilt on the Hermes' heads dividing the bookcase sections. The ceilings are of plaster in simple designs. The entrance vestibules are of Indiana limestone. The remainder of the interior is finished with painted plaster walls and ceilings.

The building is equipped with its own heating and lighting plant, all principal rooms have indirect heat and are, therefore, ventilated. The window frames throughout are of iron. In all principal rooms these are sealed and opened only for cleaning. The building in summer is ventilated by the fans of the heating system, the fresh air being cooled and washed. The lighting in the principal rooms is by the indirect method. In the stack room there are two tiers of metal stacks so constructed as to admit of the addition of three additional tiers.

LABORATORY BUILDING, BROOKLYN BOTANIC GARDEN, BROOKLYN, N. Y. PLATES 40–41. This building is approached from the street by an entrance to the ground floor and from the garden by an external flight of steps leading to the rotunda in the main story. It is built of stucco in the North of Italy Renaissance style and is two hundred and forty-two feet long and seventy-five feet wide. The center of the building is occupied by the rotunda in the form of a Greek cross rising above the rest of the building. Internally the rotunda is domed, externally the dome is covered by an octagonal pitched roof cupola surmounted by a lantern. The central cupola is echoed at either end of the building by lesser rotundas surmounted by smaller cupolas.

The basement floor contains a lecture hall holding five hundred and fifty people and various smaller rooms for study and laboratory work. The domical rotunda on the main floor gives access to the library, which is on the main axis and shaped in the form of an apse, and faces the avenue. Corridors running at right angles to this axis in the center of the wings give access to classrooms, exhibition, research and laboratory rooms.

HELPERS OF THE HOLY SOULS BUILDING, NEW YORK, N. Y. PLATES 42–45. The Helpers of the Holy Souls, whose new convent on East 86th street, New York, is illustrated in the plates of this issue is a community of Sisters, numbering about twenty-five, whose charitable work is of a highly active and personal character. The activities of the Sisters are supported by a large committee of influential women who, besides furnishing pecuniary assistance, visit the convent at stated times to perform the work of making articles of clothing for the poor.

The plans of the first and second stories and of the basement are so arranged as to permit of complete seclusion of the Sisters, independent corridors being provided for lay-outsiders in connection with the public rooms and chapel. The chapel forms a very important element of the plan, and is designed for the use of the Sisters, and on certain occasions of the ladies' committee. The building is finished almost austerely in the interior, except for the chapel, which is rendered in terms of marble and mosaic in the Byzantine style. The marble is supplemented by a very interesting scheme of faience. The exterior is constructed of limestone for the first two stories and gray brick above. Directly south of this building, facing 85th street and connecting with it, is a school which is conducted by the Sisters, a construction of eight or nine years ago. Between the two is an open property which is developed as a garden.

BOOK NOTES

WIRING FOR LIGHT AND POWER. By Terrell Croft. 400 pp. 4¾ x 7½ in. Illus. New York: McGraw-Hill Book Company, Inc. Price $2.00 net.

With the constantly widening use of electricity for light and power the installation of such service becomes an important feature in the equipment of buildings. The best practices in use in this country are incorporated in a set of rules known as "The National Electrical Code" which is the recognized guide for effecting installations that will be at one and the same time economical and fire safe. The scope of the work covered naturally requires these directions to be as brief and concise as possible without explanations or elaborations. Detailed explanation of many points, however, is essential to a thorough understanding of the principles of electric installation. Such information is supplied by this book and further elucidation of the code is presented by means of the author's discussion of the reasons for the adoption of specific features. A complete index renders the book of very practical use.

LESSONS ON FORM. A Manual of Freehand Drawing. By A. Blunck. 20 pp. text, 104 pp. of drawings. 9 x 12 in. Cleveland: J. H. Jansen.

This book, primarily intended as its preface indicates for the use of teachers of freehand drawing, is, however, of no less value for the architectural student in obtaining a clear understanding of the development of architectural ornament from floral, human and geometrical forms. The plates reproduced on coördinate paper, indicating scale and proportion, cover a wide range of subjects and show discrimination and architectural judgment in their selection.

EDITORIAL COMMENT

THE United States Government in enacting the housing legislation prohibited the awarding of any contracts on a " cost plus " basis. Much of the Government work previous to this legislation had been carried out in this way, but a great deal of criticism of the method, whether in justice or not, was aired through the daily press and was undoubtedly instrumental in moving Congress to place this condition upon the use of the housing appropriation. The fact that this form of contract is prohibited indicates at least that the Government has found objectionable features in it which do not occur in other forms. It should not be assumed, however, that the Government in setting aside all " cost plus " contracts thereby condemns them as unworthy of consideration. It may be that after further comparison with guaranteed cost contracts the " cost plus " will appear in a more favorable light. There is no doubt that the majority of owners, in contracting for work, prefer to know exactly what the ultimate cost is to be and in a considerable number of cases prefer to pay a little more and know that the prices quoted will be the final prices.

This, however, is not entirely true of all people who have building projects in mind and some owners prefer the form of " cost plus " with the evident desire to save both time and money. There can be no reasonable doubt that time is saved on contracts where the " cost plus " system is used and there is every reason to believe that the owner profits financially by this form of contract when it is properly administered.

The difficulties of the market at the present time, not only in stabilizing prices, but also in securing material where transportation is involved, are far greater obviously than in normal times. Contractors, in estimating on work, are certain to protect themselves in their estimates against any possible price increase of labor or material if they are to be tied down to a fixed price contract.

In preparing material on which the contractor may estimate, that is, plans, specifications, etc., the work may be started far in advance of the time of the actual completion of all of the detailed drawings, provided the contract is to be awarded on a " cost plus " basis. If the contractor gives an estimate which is to be a guaranteed price on incomplete drawings and is held to this price as his contract amount, it is at once obvious that his estimate must be made to include items covering possible omissions. The " cost plus " contract does not include such items.

The simple " cost plus " contract which is in effect an order on the contractor to do certain work, to render bills to the owner, and charge on the total amount an agreed percentage as a profit, is not, however, the best form. In many instances it is preferable to have an estimated price and a fixed amount which shall represent the contractor's profit. Savings made below the amount of the estimated price may be credited to the owner, but a proportion of the savings should be given to the contractor as payment for increased efficiency. If the total cost should exceed the estimated price the amount may be charged against the contractor, if the excess of cost is due to neglect on the part of the contractor or due to his error. If, however, the excess of cost is due to additional work required by the owner, to changes made by the owner's order or to unexpected increases in the price of labor or material, the contractor's profit may be increased by an established percentage.

This form of contract recognizes and rewards increased vigilance and ability on the part of the contractor and places a responsibility upon his shoulders which possibly no other form may impose. In the hands of unscrupulous persons it might lead to undesirable results. The " guaranteed cost " contract is subject to this same condition.

There is much to be said in sustaining both forms of contract. The guaranteed price contract is a particularly good form where it is possible to obtain actual competitive estimates and where sufficient time may be allowed for a careful preparation of all of the items to be included in the contract.

The " cost plus " form, however, may be made a very desirable form where it is the honest intent on the part of the contractor to save money for the owner and to give the benefit to the owner of the best purchasing ability as well as the utmost efficiency of the organization work. It also contains an element of flexibility which seems particularly in keeping with the spirit of the time. There is no reasonable basis upon which to deny its efficacy in securing work done under conditions such as held in some of the early Government work, and it will undoubtedly be influential in effecting any later permanent form that may be evolved.

" Time was " when it was considered smart and an index of business acumen to secure a contract which might be used to the disadvantage of the contractor, which by subtlety might compel the contractor to give more than he could afford for the price he was to receive. Nor is it entirely unknown that contractors have used contracts to derive unjust benefits for themselves and to deliver to the owner not the maximum, but the minimum measure of service.

As yet it seems impossible to select a form of contract which may be without some criticism. It is not beyond the realms of possibility, however, that after the stress of the present day a new contractural relation may arise which will embody the principles of fair play and which will forever bar out the old " eye-for-an-eye " form of contract.